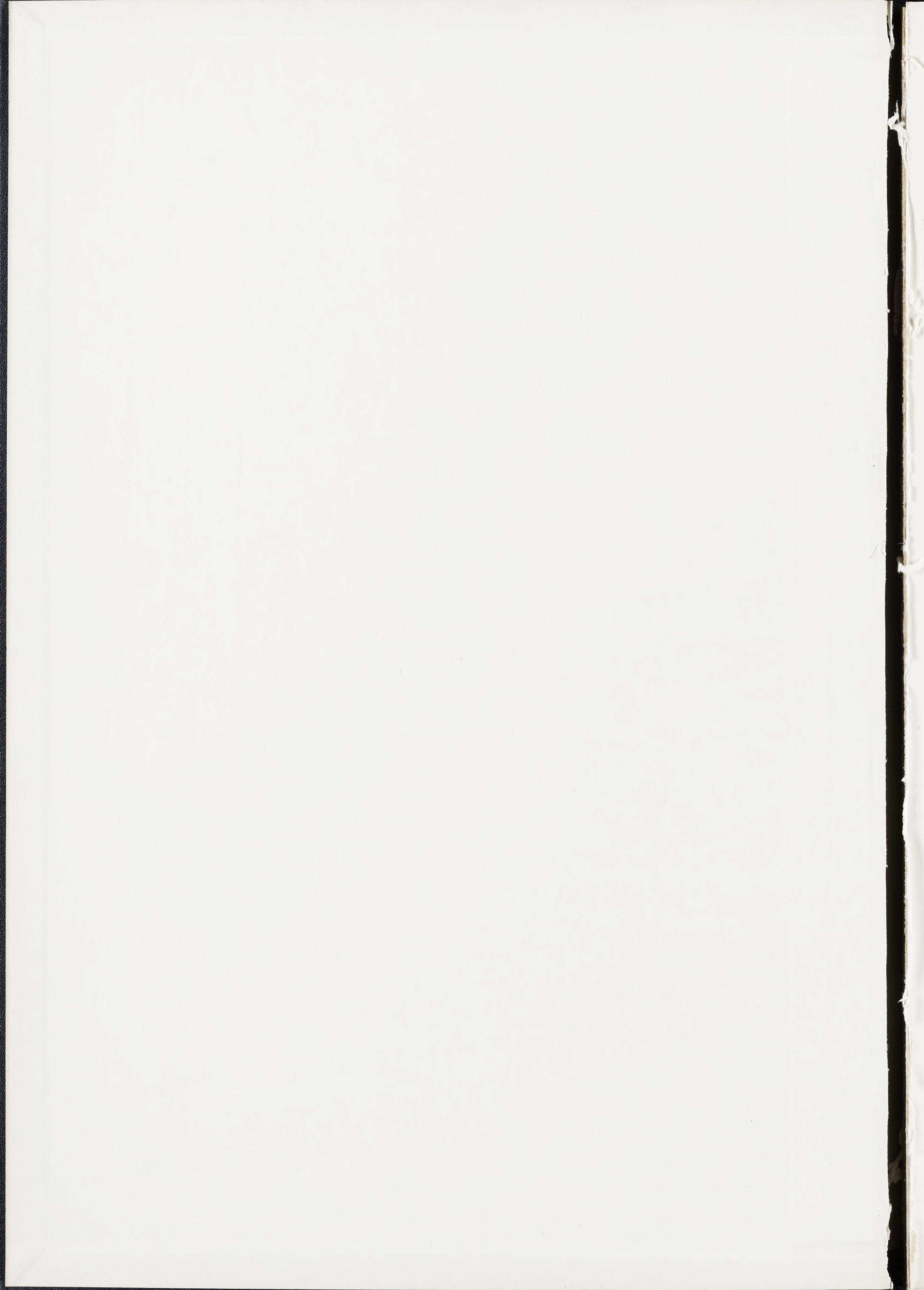


NORTHROP NEWS

VENTURA

VOLUME XXVI

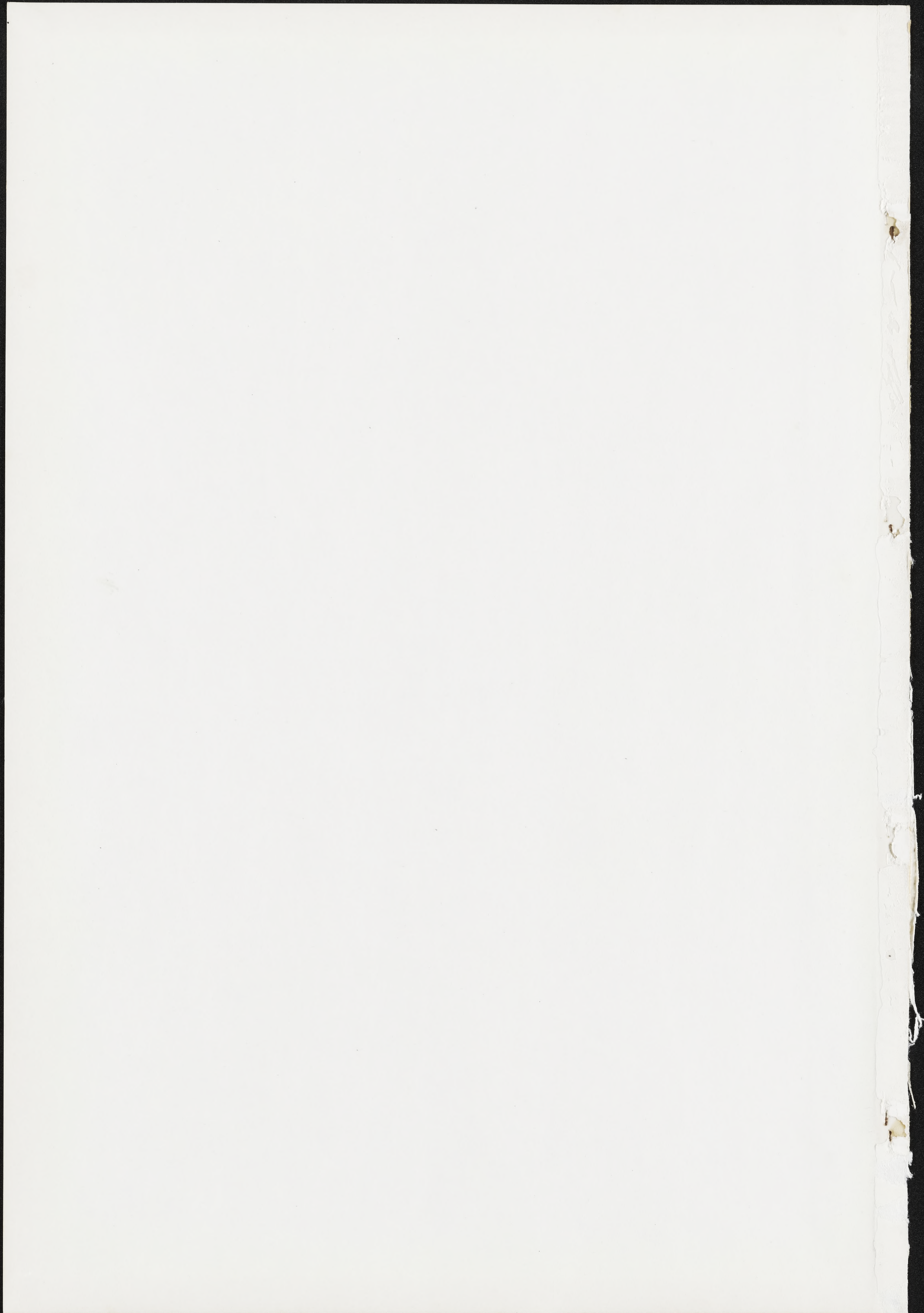






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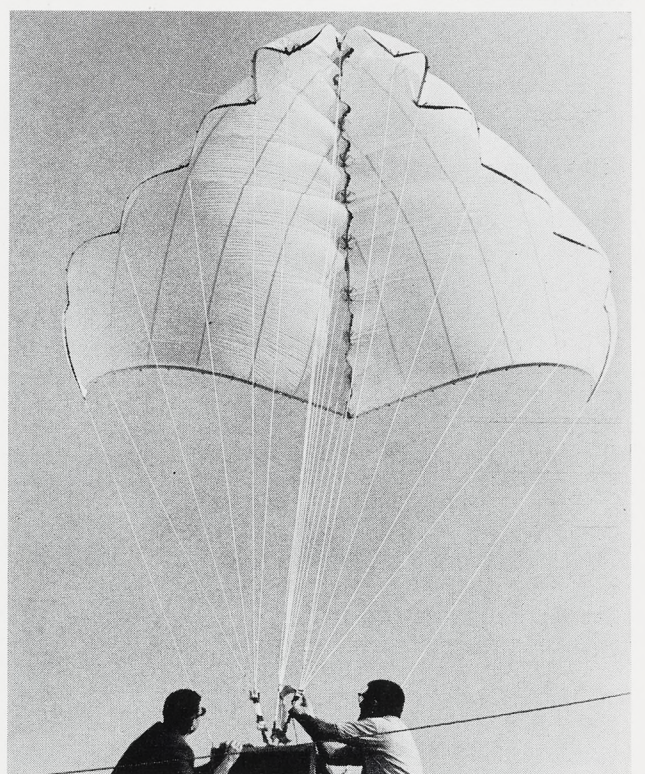
# NORTHROP NEWS

NORTHROP VENTURA

Published biweekly by Northrop Corporation, Beverly Hills, California

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**TESTING THE PARAWINGS**—Drop testing is under way at El Mirage Dry Lake on Parawing prototypes similar to those being tested in these photographs. The twin-keel Parawings are shown in the left and middle photos, while a single-keel version is tested at right. The El Mirage testing is the first drop test series for

the program. The small scale prototypes have a maximum payload capability of 600 pounds. Later full-size versions are expected to have a capability of up to 15,000 pounds. The static tests shown here were conducted at Northrop Ventura.

## SERVICE AWARDS

### Four Earn 25-Year Pins

Thirty-one Northrop Ventura employees — including four 25-year men—became eligible for service pins in December and January.



Mr. Burnside



Mr. Gilmore



Mr. Parker



Mr. Parsons

The list also included one 20-year man; three employees with 15 years of service; eight with 10 years; and fifteen with five years.

The 25-year men — Wallace Burnside, Dale (Buck) Gilmore, Harry Parker and Robert Parsons — received their awards from Welko E. Gasich, Corporate vice president and division general manager.

Mr. Burnside, a group chief in Warehousing and Traffic, joined Northrop on December 12, 1942, and transferred to Ventura in May 1962.

Mr. Gilmore has been at Northrop Ventura since he joined the company on December 15, 1942. He is foreman of Metal Fabrication and Assembly.

Mr. Parker, chief of Design and Materials Engineering, transferred to Ventura last October. He joined the company on November 16, 1942.

Mr. Parsons, an inspection chief, joined Ventura a year ago. He has been with Northrop since January 4, 1943.

The 20-year man is Richard Cronin. The 15-year pin recipients are Edgar Chapman, Joseph Dilley and Otto Goerisch.

Receiving 10-year awards were Calvin Berling, J. W. Brazel, Henry Brend, Kenneth Clint, Kenneth Grass, Kenneth Jackson, Garland Porter and Robert Preucel.

Earning their five-year pins were:

Forrest Godfrey, Pauline Hendrickson, Carolyn Howard, Rachel Jordan, Mary Kelting, John Knight, Armand LeBlanc, Russell Lenhart, Seth Lewis, Marie McFarland, Fred Mickey, Francis Morse, Josephine Nostrand, Calvin Peterson and F. James Wynhoff.

### Ventura Officials Expand AMPLS Parts System

Northrop Ventura's Automated Master Parts Listing System (AMPLS) has been expanded to include all of the Division's major programs.

Lew Fisher, supervisor of Configuration Management, said the system has, in recent months, been equipped to handle parts requirements on the Apollo, MQM-74A, Boeing 747 and Mobile Anti-Submarine Warfare Target System programs.

"We now have a full input-output capability on these programs," Mr. Fisher said, "and this represents the first step in data acquisition and data resource for the Automated Product Planning System and the Automated Material System by providing a data source for Detail Requirements Notices and Planning Control Sheets."

All of these are part of Ventura's Product Documentation System.

Among the advantages of the expanded AMPLS system, as outlined by Mr. Fisher, are:

Only one master parts listing is needed, both in Engineering and in Planning and Procurement.

AMPLS provides drawing assembly breakdowns for Configuration Management and Program Integration.

The system provides up-to-date engineering change lists.

Through AMPLS, the Division should achieve significant improvement in cost and time factors.

Chuck Merlian, chief of Management Systems and Organization, evaluated the new improvements:

"We are looking forward to the continued Corporate development of AMPLS, so that we can share in its benefits. Through (See AMPLS SYSTEM, page 6)

## Parawing Program Testing Under Way

Northrop Ventura is holding a two-week series of drop tests on four small-scale prototypes under the NASA Parawing program which the company is conducting for the space agency's Langley Research Center.

The drops, being conducted at El Mirage Dry Lake on the Mojave Desert, comprise the first phase of a research test program which will lead to full-scale experiments. Present tests are designed to evaluate the gliding and turning capabilities of both single and twin keel Parawings, each with payload capabilities from 180 to 600 pounds.

### Phase One

The Parawings are being dropped from a helicopter at an altitude of 3,000 feet. Phase one testing began last week and is scheduled to continue through Friday.

The single keel Parawing has a keel length of 24 feet. The twin keel Parawing has a keel length of 22.7 feet.

John H. Moeller is chief project engineer, reporting to George Grogan, Northrop Ventura vice president and manager of Engineering.

### Test Personnel

Northrop Ventura personnel conducting the test program include Carey Buhler, Systems Integration project engineer; Gene Linhart, Fluid Dynamics lead engineer; and Dillon Cox, Test lead engineer.

Present plans call for the 600-pound capacity Parawing to be followed by flight testing one having payload capabilities up to 6,000 pounds.

The intermediate scale Parawing will have a 76-foot keel length in the single keel version, and a 72-foot length in the twin keel version.

Finally, full-scale Parawings will be developed and tested. These are under consideration by NASA, for applications in the land landing of manned spacecraft vehicles in the early 1970's.

### Heavy Payload

The full-scale wing will have a payload capability of 15,000 pounds, a single keel length of 115 feet, and an over-all wingspan of 128 feet.

The El Mirage drops are being made with the Parawings in an open, unreefed condition. The helicopter hovers with as little ground speed as possible.

### El Centro Tests

Next month, tests are scheduled to be made at El Centro. The Parawings in those tests will be reefed and will be dropped from B-66 and C-131 aircraft.

Additional officials on the program are:

T. W. Knacke, technical staff; R. W. Harris, Production Operations supervisor; A. H. Martin, Quality Control supervisor; D. W. Summerhauser, Program Plans and Change Control supervisor; H. R. Dudley, Contract Management administrator; D. J. Thomson, Data Reduction lead engineer; D. C. Coe, Stability and Control lead engineer; R. L. Ranes, Stress and Weights lead engineer; W. E. Green, Electronics and Instrumentation lead engineer; Dr. R. V. Lashbrook, Materials Investigation lead engineer; and L. T. Parson, Design lead engineer.

## Adult Education Counseling Offered

Northrop Ventura employees who aren't high school graduates—but would like to be—have been asked to contact Chuck Borst, administrator of Professional Development and Training, for information on Ventura County's adult school programs.

"The spring semester is about to start," Mr. Borst said, "and the school districts in Simi and Oxnard will be counselling students within the next few weeks."

"The decision to obtain a high school diploma is a very worthwhile one, and is often easier than most people realize."

School districts throughout Ventura County offer extensive nighttime adult education programs, Mr. Borst said.

Mr. Borst may be contacted on ext. 1110 or ext. 1180.



## Stout 'Holds the Line' At Coliseum Events

From metal-to-metal bonding to shoulder-to-shoulder blocking—that's the transition Norair's Bill Stout has made every football weekend for the past 25 years.

Mr. Stout is an automatic machine dispatcher in Manufacturing Control, but he doesn't pull on shoulder pads and play football in his spare time; he watches it.

### Crowd Control

That is, after he has made sure that up to 95,000 others are sitting where they can watch it. Bill handles crowd control for the Sunday afternoon Rams games at Los Angeles Coliseum, supervising as many as 80 to 100 others; most of whom are Northrop employees who have worked for him as long as they can remember.

Seeing all the home games is a fringe benefit of a preoccupation that has kept Mr. Stout busy on weekends since he first ushered USC games at the Coliseum in 1927. During these past 40 years, Bill has seated crowds for every event from rodeos and circuses, to political gatherings and football games.

But, his fondest recollection is of the 1932 Olympic Games played in Los Angeles. "Every event was thrilling," said Bill, "I just couldn't take my eyes off that field." Since then, the job has been among his first loves—and an absolutely no-cost way to see sports. He even gets paid for it.

### Last-Minute Rush

Bill and his staff, mostly Northrop employees from Hawthorne and Palos Verdes, are proud of the fact that they have seated 75,000 fans in the last 30 minutes before kick-off. "Course we don't look forward to doing that all the time," he quickly noted, "but, it can be done."

When you think about it, it's no wonder Bill Stout is good dispatching fans through stadium tunnels. He's been at the Coliseum almost as long as football has, having missed only two games in 22 years. No Rams player or coach can top that.

### A Fine Job

Two of Bill's long-time staff of Northrop ushers, Carl Lippon of Hawthorne, and Russ Gimbrone in Palos Verdes, verify his proficiency at "holding down the south side." Carl: "I've always been amazed at how cool Bill remains when some irate fans complain about their seating. He always seems to be able to smooth things out." Russ: "He has certainly done a fine job all these years; it's about time Bill is being recognized."

With another successful Rams season closed, Bill will seek out other crowds to conquer. But he wouldn't like that word, "conquer." "I've always told my men to, above all, be polite and courteous to the folks who've put out good money to see the games... and we generally are," he reckoned.

### Rose Bowl, Too

Bill has "worked" almost all Southland arenas at one time or another, including Riverside's Grand Prix and the Rose Bowl. He and his Northrop crews have seated many celebrities who have bought a reserved seat; including Bob Hope, Richard Nixon, and Robert Kennedy.

But his biggest job came about 15 years ago when the Coliseum still held 105,000. "Notre Dame was playing USC and we put somebody in every single seat," recalled Bill. "I stood up the whole game, and I'll never forget it. But, don't ask me who won, I'd have to think back on that."



*TWENTY-FIVE YEARS OF SERVICE to Northrop is the record of achievement of Bill Stout. On weekends, Bill handles audience control for the Rams football games at the Coliseum. Weekdays, Bill is a Norair automatic machine dispatcher in Manufacturing Control, the same department where he began his employment with Northrop in 1942.*

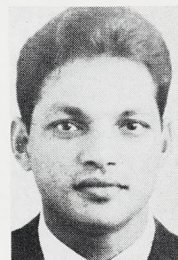


*FORTY YEARS OF SEATING fans at the Los Angeles Memorial Coliseum; that's the record of Bill Stout (left), Norair automatic machine dispatcher, who's worked 22 of those years handling audience control for the Rams. Here, he checks out seating schedules with Northrop employees Carl Lippon (center) and Russ Gimbrone.*

## Dr. Y. P. Gupta Appointed Lab Director

Dr. Y. P. Gupta has assumed new duties as director of the Materials Sciences Laboratory at Northrop Corporate Laboratories (NCL).

Dr. Donald A. Hicks, Northrop vice president of Corporate Research and manager-NCL, announced the appointment and indicated Dr. Gupta will be responsible for planning, initiation and directing research and development on materials of interest to Northrop Corporation's future objectives.



Dr. Gupta

Dr. Gupta is a native of India. He holds B.S. (1953) and M.S. (1955) degrees in physics from Delhi (India) University, a D.I.S.C degree in metallurgy (1957) from the Indian Institute of Science and a Ph.D. (1963) from the Massachusetts Institute of Technology in metallurgy.

From 1958 until 1963, Dr. Gupta was a research assistant at MIT and from 1963 until joining Northrop served as an assistant professor of metallurgy at the University of Minnesota.

His teaching experiences include instructing classes in kinetics of solids, electron microscopy, mechanical behavior of solids, thermodynamics of solids and general introduction to materials sciences.

Dr. Gupta has authored or co-authored some 20 technical papers in leading scientific journals over the past four years. He also served as consultant-cum-research metallurgist for the National Company, Inc. of Massachusetts on the Atomic Beam Tube and Nuclear Magnetic Resonance programs.

## Page Receives Contracts For Work in Germany, Iran

Page Communications Engineers has been awarded contracts to provide communications equipment for the U.S. Army in Germany, and to design and engineer a satellite communications station for the government of Iran.

Page, a subsidiary of Northrop Corporation, will engineer, build and install communications equipment at the European Command Center in Stuttgart, Germany. The center will be used by the Army for the transmission and reception of information at the command center, which recently was moved from Camp des Loges, France. Permanent facilities are scheduled to be completed by July.

This contract, which includes teletype systems, sound amplification equipment, and graphics and briefing systems, was awarded by the U.S. Army Electronics Command at Fort Monmouth, New Jersey.

The Iranian letter contract was awarded by the Imperial Government of Iran. The installation, which will operate through the International Telecommunication Satellite Consortium, will be able to receive and

transmit telephone, television and other forms of communications, all via satellite.

Page is building the first high capacity earth station in Latin America, to be in service in Panama late this year. Page previously has designed and built satellite earth stations in the United States, Thailand and Australia.

## Travel Club Plans Colorado Ski Trip

February 1 is the deadline for reserving one of the limited reservations (only 45 available) for an all-Northrop Travel Club excursion to the Aspen, Colorado, ski area.

The tour departs March 30 and returns April 6.

The \$192.50 per person package includes round trip jet air fare, seven night's lodging (Molly Gibson Inn) with continental breakfast, and a six-day ski ticket good for four ski areas.

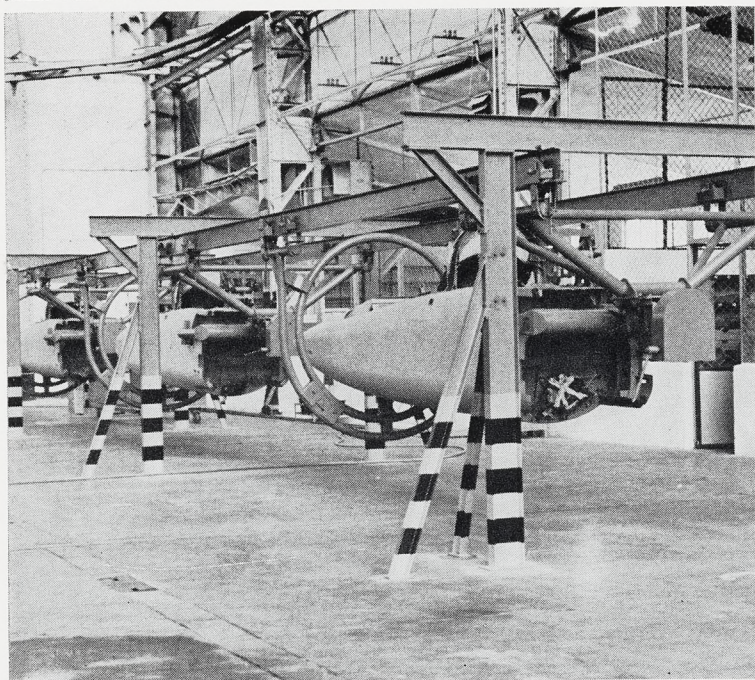
A deposit of \$120 is required on or before February 1 with the balance due by February 29. Contact Personnel Activities outlets at any Northrop facility.



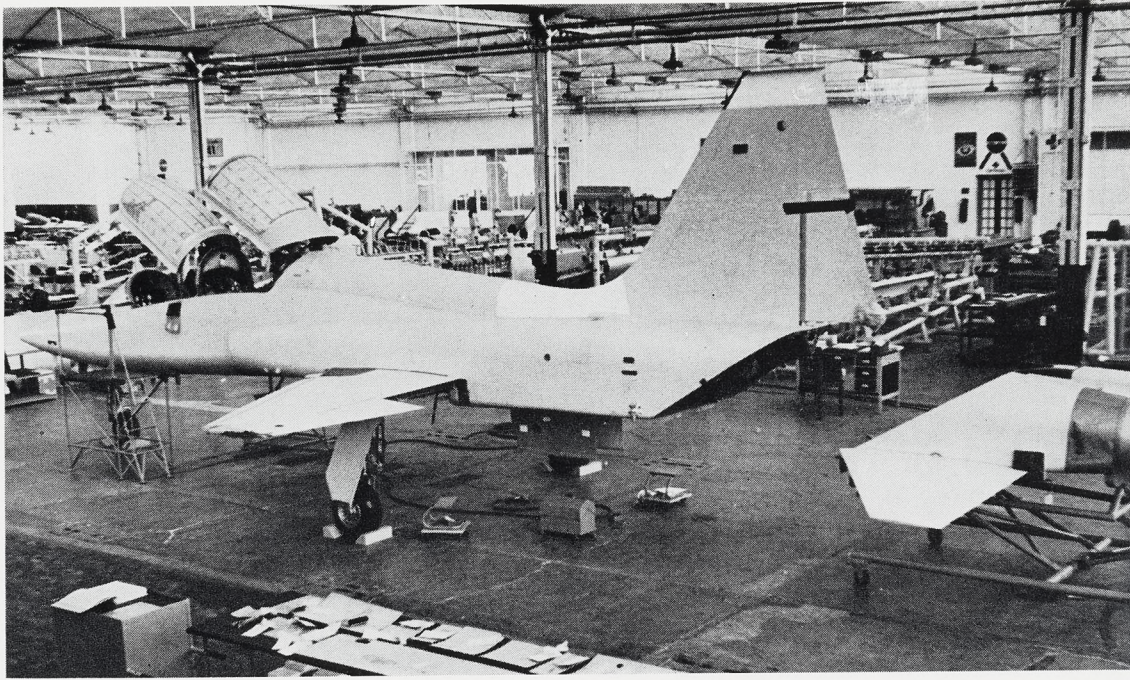
*HALLICRAFTERS IN VIETNAM — Curt Hammond (left) and J. C. Mathews of The Hallicrafters Company examine a model of the WR 4000, which is being sent to military post exchanges in Vietnam. The radio will enable*

*American soldiers to hear U.S. broadcasts from the Voice of America and other English-language stations throughout the world. Hallicrafters is a subsidiary of Northrop Corporation with headquarters in Chicago, Illinois.*





**SPANISH NORAIL**—At Sevilla a modern new NORAIL production system serves CASA. Three F-5 nose sections are shown on the assembly line moving toward completion.



**NEARING COMPLETION**—A Northrop F-5B for the Spanish Air Force is going through final assembly operations at Getafe. This CASA

facility serves in a capacity similar to Norair's Palmdale Facility, carrying out final assembly operations that lead to production flight test.

## CASA Moves Ahead Toward F-5 Production

Northrop employees may tend to take our F-5 fighter production at Hawthorne pretty much for granted... but it's a brand new ball game when another company starts to build our sleek supersonic beauty overseas.

That's the task facing CASA—short for Construcciones Aeronauticas, S.A.—the Spanish aircraft company licensed by Northrop to build the F-5 for delivery to the Spanish Air Force. And it's a task that's keeping Norair people busy, too... because we are providing full-scale technical support for CASA's F-5 production program under the terms of a technical assistance agreement signed early in 1965.

Although most of CASA's aircraft production has been performed under license agreements with foreign aircraft manufacturers, the company designed and built its own high-wing light plane in 1929 and later produced it in several versions. A design office was established in 1946 and three prototype airplanes were designed and built for the Spanish Air Ministry in the years that followed. These were the C-201 Alcotán, a 10-place twin-engined transport; the C-202 Halcon, a more advanced 14-place model; and the C-207 Azor, a much larger airliner designed to carry 30 to 40 passengers. Several substantial production contracts for these CASA

aircraft were received from the Spanish Air Ministry and the C-207 is now in wide use by the Spanish Air Force as a troop transport.

One of the striking aspects of CASA's 43-year aircraft manufacturing history is its long association with many of the world's best-known aircraft companies. More than 1,650 aircraft of all types were produced through 1965, by far the greatest percentage of which were those built under license agreements. More recently, CASA has been engaged in several large-scale projects for the modification, overhaul, and/or maintenance of American military aircraft. This work has given CASA considerable familiarity with the design and construction of modern operational jet aircraft, experience which will be of value to them in building our F-5 fighter.

CASA's plant facilities and equipment have been more than adequate to meet the fabrication and assembly requirements for previous generations of military and commercial aircraft, but production of the supersonic F-5 called for certain fabrication processes and facilities that had never before been used in Spain. This meant that our help would be required in setting up the required facilities and providing the technical know-how for their operation.

Accordingly, a technical as-

**Editor's Note—Construcciones Aeronauticas, S.A. (CASA), the Spanish aircraft company licensed by Northrop Corporation to produce F-5 tactical fighters for delivery to the Spanish Air Force, is moving forward aggressively on that effort.**

**This report was prepared by Northrop Norair personnel working closely with CASA personnel in Spain and forwarded through the office of Paul Jacobs, SF-5 Program manager.**

**Because it is a timely and informative chronicle of current activities that also adds interesting new insight on CASA's 43-year aircraft manufacturing history, the editors feel it is of general interest to all Northrop employees.**

istance agreement was made in February 1965, calling for Northrop to provide facility engineering support and to assist in laying out and equipping the new facilities. We are also required to provide specific types and quantities of technical data, tooling, raw materials, purchased parts, fabricated parts and components, equipment, and 10 knocked down F-5 shipsets—as well as to furnish qualified people as advisors to help CASA get production rolling and to work with them in meeting planned production milestones.

All F-5 fabrication and assembly work except for parts and

components made in the United States will be done at CASA in Getafe and Sevilla. The Getafe facility, about 10 miles from Madrid, is a 624,000-square-foot plant complex comprising modern aircraft fabrication and assembly shops, quality control and metrology laboratories, and an 86,000-square-foot hangar for the modification and overhaul of present-day military jet aircraft. A lateral annex to the main plant houses well-equipped hydraulic, electrical, electronic and instrument shops.

As earlier mentioned, certain new facilities were required to ready the Getafe plant for full-scale F-5 production. With the technical assistance of Northrop specialists, a honeycomb bonding facility containing a large autoclave was installed. Similarly, other Northrop specialists helped CASA people plan and install a plastic laminate and hot forming facility, hard anodizing equipment and special machine tools needed for fabricating landing gear components.

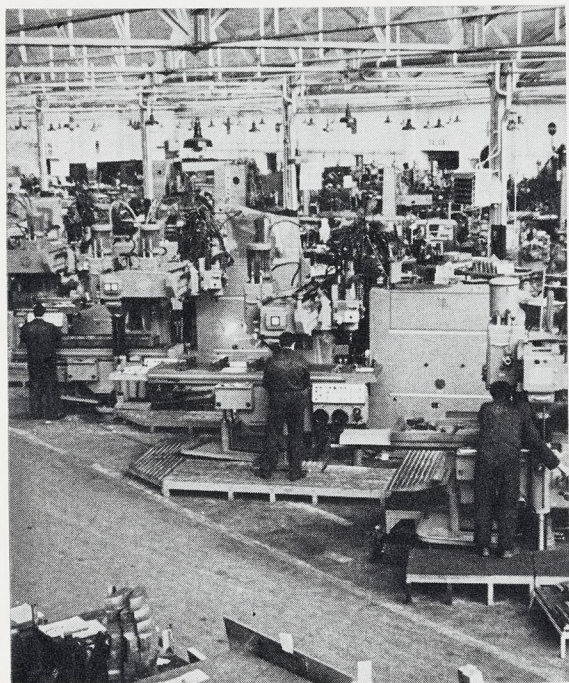
Over 50 per cent of CASA's F-5 manufacturing and assembly operations are being done at Getafe. These include the fabrication and/or assembly of wings, boattail, speed brakes, canopy, pylons, landing gears and 150-gallon tanks. Then, after engine buildup and receipt of fuselage and vertical tail structures built at the Sevilla plant, Getafe be-

comes a Spanish version of our Palmdale Facility, handling all final assembly and production flight test operations.

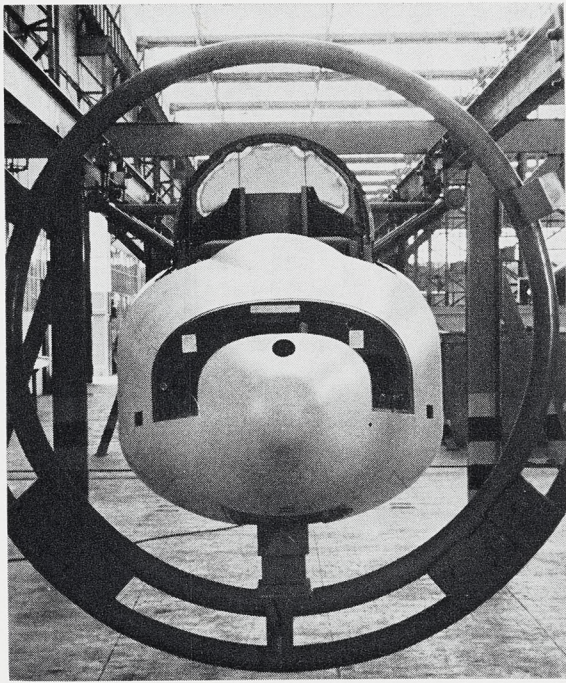
The main Sevilla facility is located on the outskirts of the city adjacent to the Tablada military airport and connected to it by a taxi strip. CASA has a second major facility in the Sevilla area, located at the San Pablo Airport and used principally for aircraft overhaul. Those portions of the F-5 being produced by CASA at the Sevilla facility are manufactured in a 290,000-square-foot plant which is fully equipped for standard aircraft fabrication and structural assembly work. As at Getafe, however, additional facilities had to be installed at this plant to meet F-5 production needs, including a chemical milling facility, expansion of existing heat-treat and machine shop capabilities.

CASA is producing F-5 seats, main fuselage structures and the vertical stabilizer in Sevilla. As shipsets are completed, they are loaded on trucks and shipped to Getafe for sew-up and final assembly.

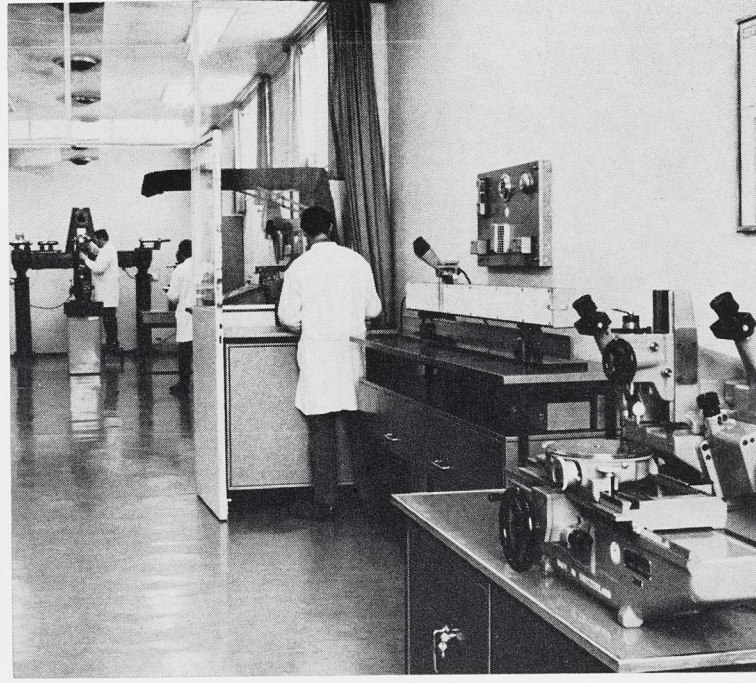
Norair people have been working at Getafe and Sevilla with CASA engineers, technical specialists and production people since early in 1966... and this assistance will continue until CASA's present contract to build 36 F-5A's and 34 F-5B's has been completed.



**MODERN MACHINE SHOP** — At Getafe, Spain, CASA personnel utilize modern precision machinery to produce parts and components for the Spanish F-5 tactical fighter program.



**LIKE A BIG EYE**—An F-5B nose section at Sevilla is ready for assembly operations. CASA's Sevilla facility provides structural assembly capability as well as standard fabrication support.



**SPOTLESS LABORATORY**—This well-equipped laboratory at Getafe is capable of carrying out tests on all types of materials. Other laboratories are available for quality control and metrology tasks required to support the production of F-5's in Spain.



## Stevens Gains Key Posts For National Convention

Frederick Stevens, Corporate vice president and Nortronics general manager, has been named to two key assignments for the 1968 National Winter Convention on Aerospace and Electronic Systems.



Mr. Stevens

Northrop President Thomas V. Jones is a member of the advisory committee for the important event, to be held February 12 through 14 at the International Hotel in Los Angeles.

Mr. Stevens will be co-chairman of "Oceanography—a New Challenge for the Electronic Engineer," a technical session scheduled for February 14. He is also on the convention's Technical Program Committee.

The over-all conference theme is "Frontiers in Electronics."

General chairman of the conference is S. F. Eyestone, president of Autonetics, a division of North American Rockwell Corporation.

William J. Grinnell of Norair Packaging and Materials Handling has been installed as presi-

dent of the Southern California Chapter of the Society of Packaging and Handling Engineers.

Mr. Grinnell will serve a two-year term, beginning this month. He was installed at a dinner meeting last month.

Also installed from Norair were Charles M. English and Marshall R. Shelp, both of Packaging and Materials Handling. Mr. English is a director of the group, and Mr. Shelp was named chairman of the Manpower Utilization Committee.

John E. Oliver, Corporate administrator of Product Licensing, has been elected president of the Licensing Executives Society, an international organization incorporated to advance the practices of Licensing.

Mr. Oliver, a charter member of the group, has been chairman of the Licensing Committee of the Los Angeles Chamber of Commerce since 1957.

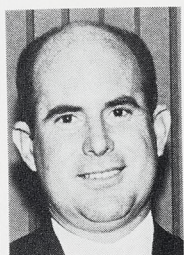
The Licensing Executives Society was formed in 1965. It has more than 400 members, organized into Eastern, Midwestern and Western regional chapters in the United States.

### NRC To Sponsor 'Camelot' Showing

A limited number of choice reserved seats for the 2 p.m. February 3 showing of the motion picture musical Camelot is available through Northrop Personnel Activities outlets.

Regular \$3 loge seats are available for \$2.40, and \$2.75 orchestra seats may be obtained for \$2.20 through NRC sponsorship.

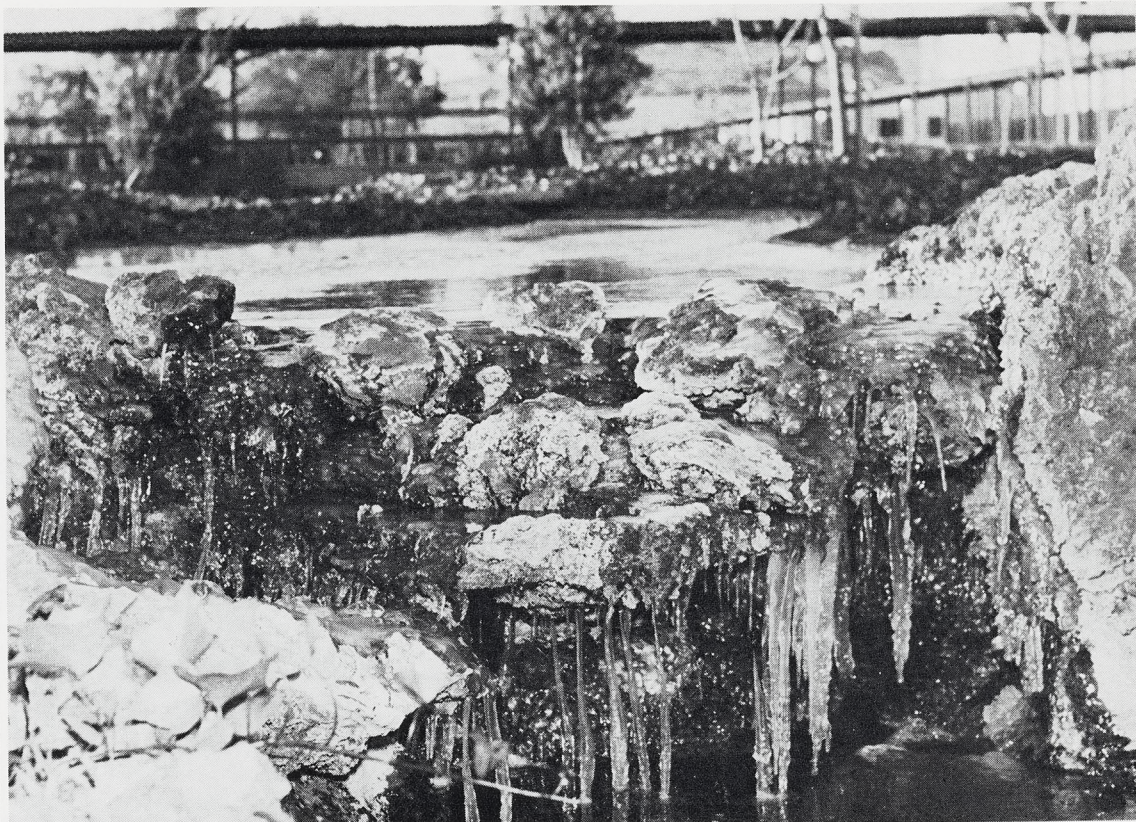
Camelot stars Richard Harris and Vanessa Redgrave. It is currently in an exclusive engagement at the Pacific Cinerama Dome Theatre, Sunset Boulevard (near Vine) in Hollywood.



Mr. Grinnell



Mr. Oliver



*THE NORTH POLE? No. This pond with its icicles is on the grounds at Northrop Ventura. A recent stretch of cold weather brought overnight temperatures down below the freezing*

*point, giving Ventura employees this rather unusual sight when they reported for work. Other results of the cold spell included frost on lawns and bushes.*

## Lois Paris Installed by Women's Club

Lois Paris of Norair Contract Pricing was installed last week as 1968 president of the Smoothsayers Toastmistress Club, a women's public speaking group affiliated with the Toastmasters.



Mrs. Paris

Mrs. Paris and the other officers were installed in a dinner meeting at Dandel's Restaurant in Los Angeles on January 10.

Other incoming officers are: Mrs. A. V. Dougherty, Northrop Systems Laboratories, Palos Verdes, first vice president; Mrs. Paul Clack, Norair Documentation, second vice president; Mrs. J. R. Wilkins, Delta Air Lines, secretary; and Mrs. Clarissa Keinonen, Norair Cost Accounting, treasurer.

The group's next meeting will begin at 6:15 p.m., January 24, at Dandel's Restaurant, Western Avenue at 120th Street.

## Youth Training Course Planned By Toastmasters

A new Youth Leadership training program under sponsorship of Northrop Toastmasters Club begins an eight-week run February 10. It is open to the sons and daughters of Northrop employees and other area youth between the ages of 15 and 18 years.

Sessions will be held each Saturday (9 to 11 a.m.) at NRC Clubhouse, Hawthorne. There is no charge for the training.

Application blanks may now be obtained by parents through Personnel Activities outlets.

This specialized training is designed to teach youth vital communication skills—public speaking, thinking on your feet, parliamentary procedures, and effective communication of ideas and ideals.

### ADVISORY COMMITTEE

## DOD Chooses Warrick

Northrop Corporation's G. L. Warrick has been named to a newly established Department of Defense-Industry Assets Management Systems Advisory Committee.

This committee held its initial meeting December 19 at the Pentagon.

The committee will serve until November 30, 1969.

It will provide a forum for the industrial community and DOD representatives to discuss sets of methods and procedures by which a contractor manages his use of labor, technical skills, materials and other resources.

It will also provide a method for evaluating progress and the

use of resources on a military contract.

Colonel Herbert Waldman, USAF, director for Assets Management Systems, Office of the Assistant Secretary of Defense (Comptroller), is the committee chairman.

Mr. Warrick, supervisor of Government Reports for Northrop, is one of a number of key industry men named to the committee and was selected to serve as chairman of the contractor members of the group. He is also currently filling his second term as national chairman of the Aerospace Industries Association's Government Reports Committee.

## Golf Tournament Results Listed From Nortronics

The annual Nortronics Christmas Golf Tournament highlighted the yearend holiday for a field of 55 Nortronics golfers, and winners of the two-day 36-hole event have been announced by NRC Golf Commissioner Dave Krieghoff.

Five contenders won trophies and gift certificates. Dave Rice had low gross in the tourney, while Herb Bansbach registered low net for the 18-hole rounds at El Dorado and Montebello courses.

Meanwhile, Bob Abel, Dave Jenkins and Jim Dower captured honors in the first, second, and third flights, respectively.

Plans for the February 17 tournament at Green River Golf Course in Corona are already under way with reservations now being accepted.

January tourney results from Elkins Ranch are being compiled.



*WORLD TRAVELERS—Northrop Travel Club members pose before a native hut in Tahiti during their recent tour which also took them to New Zealand, Australia, Fiji Islands, Samoa, Moorea and Bora Bora.*



*READY FOR F-5 FLIGHT is General Driss Ben Aomar, commanding general of the Royal Moroccan Armed Forces. The general received his initial orientation flight aboard an F-5B late last year in Morocco.*



# Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

For Sale
Sunbeam, 1963 Alpine convt., \$995. 375-0758. A
Dune Buggy, newly built on 1961 VW chassis, rebuilt 40 h.p. eng., \$1,800. 370-2876.
Volkswagen, 1965, sedan, 25,000 miles, \$1,100. 370-6490. A
Mustang, 1965 2+2, GT, 4-spd., many extras, \$1,900. 337-1664. A
Guitar, elec., amp & case, \$55. 375-6071. A
Mustang, 1966, 3-spd. 6, \$1,700. 896-4543.
Teaching Machine, World Book, \$40. 714-526-2962. A
Precision Tools, complete set, in Gerstner tool box, \$150. 370-3321. A
Cadillac, 1964 convt., air cond., \$2,200. 644-3229. A
Tape Recorder, Ampex 860, w/mikes, still on warranty, \$240. 673-1462. A
Acreage, 5 acres in Antelope Valley, \$35 down, \$35 mo., incl. 6% interest, \$3,500. 378-1026. A
Motorcycle, 1967 Harley-Davidson XLH sportster, \$1,595. Box 101. A
Lot, 70'x125', R-1 zone, terms avail., \$5,100. 941-5527. A
Sailboat, 18' P-Cat, 2 yrs. old, ss/alum. mask, 1 1/2 h.p. Seagull, marina slip inc., \$900. Box 102. A
Aquariums w/access., \$4-\$9. 714-630-1914.
Hair Dryer, on stand, adjustable, \$25. Box 103. A
Baby Items, cribs, mattress, bathinette, other items, \$2.50 to \$47.50. 989-3507. A
Shower Door, sliding, safety glass, std. tube size, \$18. 323-8797. A
Lens, 135mm f:3.5 auto. Schneider for Exakta, \$50. 835-3869. A
Crash Helmet, Bell Toptex, size 7 1/4, \$25. 534-1231. A
Sloop, 29' Columbia 29, Mark II, sleeps 6, full cruising & racing eqpt., \$13,900. 714-675-2920. A
Camper, 1962 Merced, butane ref., lights, self-contained water supply, \$1,150. 448-8951. A
Dresser, 6-dwr. w/mirror, natural finish, \$65. 672-2723. A
Ice Skates, boy's size 1, black, \$10. Box 104. A
Boat, 14' runabout, windshield, \$500. 675-1982. A
Power Edger, \$30. 882-0761. A
Horse, 7 yrs. old, quarter-type mare, 10 mos. in foal, \$250. 324-3638. A
Volkswagen 1600, 1966, fastback, radio, \$1,725. 638-4954. A
Chevrolet, 1964 Impala Super Sport, V-8, 195 h.p., convt., r/h, p/s, \$1,700. 254-7045.
Mini-Bike, \$98. 246-4495. A
Stove, O'Keefe & Merritt, \$40. 326-6214. A
Oldsmobile, 1959 Holiday h/top, new trans., carburetor, \$350. 823-2655. A
Oldsmobile, 1958 98, full power, \$150. 714-826-9164. A
Station Wagon, 1961 Super 88 Oldsmobile, r/h, luggage rack, \$650. 672-5798. A
Ironer, elec., floor model, \$30. 672-7167. A
Chevrolet, 1964 Super Sport, convt., V-8 327 cu. in., 4-spd., r/h, \$1,100. 691-0106. A
TV, 23" color, lge. maple cabinet, \$325. 644-4529. A
Lawnmower, power, sep. control for drive & blade, \$40. 714-962-6983. A
Guitar, elec., Fender Stratocaster, case, \$200. 371-9925. A
Apt Units, 8 2-bdrm., \$77,000. 837-0989. A
Chassis for Volkswagen 1600, complete w/seats, 6,000 miles, \$750. 670-5084. A
Ford, 1956 4-dr., 6-cyl., auto. trans., \$95. 679-6219. A
Camera, 8mm movie, Bolex f:1.9 & telephoto lens & filters, case, \$50. 675-1378. A
Pickup, 3/4-ton GMC, 1962, Hyd. trans., r/h, 2 extra 22-gal. gas tanks, \$1,150. 944-3794. A
Honda 50, Model C100, \$100. 378-4676. A
Box Spring, Englander, twin size, \$5. 545-1631. A
Typewriter, Smith Corona Galaxie II, portable w/case, \$70. 545-1348. A
Range, O'Keefe & Merritt, gas, \$35. 823-2242. A
Piano, 5' grand, 1926 Hamlin, \$250. 375-3756. A
Accordion, 120-bass, \$125. 674-1825. A
Books, 44, complete collection of "Hardy Boys" detective stories, \$10. 325-4580. A
Air Conditioner, G.E., \$35. 329-6848. A
TV, 15" Packard Bell, walnut cabinet, \$15. 675-2331. A

For Sale
Trailer, combination utility & camping, bltin stove & ref. w/20 lb. gas bottle, \$300. 675-7928. A
Bicycle, girl's, \$14. 328-3306. A
Dinette Set, table w/6 chairs, \$45. 714-535-1694. A
Vacuum Cleaner, 2 h.p. Constant Vacuum, canister-type, many attachments, \$115. 714-544-4700. A
Ford, 1940 coupe, \$400. 371-8929. A
Home, 2-bdrm. Spanish stucco, sep. dining rm. or convt. den, det. dble. gar., 50 x 150 R-3 lot, near Norair, \$25,900. 755-4534. A
Camper, 8' walk-in, butane stove w/oven, sleeps 3, \$300. 320-5367. A
Washer, Kenmore, \$50. 679-1051. A
Camper, 1965 Pullman w/slide-out canopy, \$425. 714-526-2071. A
Ford, 1962 Galaxie 500, 4-dr., 8-cyl., auto. trans., p/s, air, radio, \$380. 645-5786. A
Water Softener, glass-lined tank, \$20. 371-5072. A
Mustang, 1966 GT h/top, p/s, auto., V-8, \$1,800. 633-9289. A
Honda 150, 1962, partially disassembled, \$75. Box 105. A
Elva MKV, Chevy II, fuel injection, race equipped, trailer, \$1,400. 714-539-7071. A
Amplifier, Eico HF87, 35 watt per channel, basic, stereo, \$50. Box 106. A
Ford, 1959 Fairlane, auto. trans., 14,000 mi. on rblt. eng., \$275. 635-3056. A
Duplex, 3-bdrm. ea., 1 1/4 baths ea., bltins, pvt. sundeck & yard, plus house, 2-bdrm. on same property, 10% dn., \$62,500. 673-4475, 292-8053. A
Jeep, 1962 Land Rover, \$1,250. 423-4491. A
Mustang, 1966 h/top, 6-cyl., r/h, Cruiseomatic, \$1,800. 714-962-2367. A
House, 2-bdrm., walking distance to Hollywood Race Track & Forum, air cond., block wall fence, many extras, \$26,900. 674-3953. A
Chevrolet, 1962 Impala, 4-dr. h/top, r/h, auto. trans., p/s, \$795. 865-7776. A
Honda 50, 1965, \$125. 363-3843. A
Camera, Fairchild Cinephonic, projector, case, many extras, \$250. 714-528-7636. A
Golf Clubs, 1966 Haig Ultra, D-2, stiff shaft, 3 woods, 9 irons, \$130. 830-6163. A
Chevrolet, 1963 Impala Super Sport, p/s, p/b, tach., \$1,150. 676-2347. A
Bed, king size, 6 mos. old, 2 box springs & mattress, Simmons & hvy. duty frame, \$175. Box 107. A
Volkswagen, 1965 sunroof sedan, r/h, \$1,175. 831-6480. A
TV Antenna, Winegard, color, \$6. 788-9709. A
Station Wagon, Rambler, 1957 Cross-Country, 4-dr., 6-cyl., o/drive, \$135. 675-2159. A
Honda, 1965 Superhawk, many extras, \$400. 805-947-4782. A
Oldsmobile 88, 1955 club cpe., r/h, \$115. 323-1417. A
Camera, Polaroid, 900 model, leather carrying case, \$70. 370-3821. A
Home, 3-bdrm., bltins, \$24,500. 679-4840. A
Oldsmobile, 1967 Cutlass-Supreme, Holiday sports cpe., a/c, AM-FM radio, console, many extras, \$3,000. 756-2492. A
Movie Camera, Anscomatic ST/87 Super 8, \$50. 675-2723. A
Panel Truck, 1955 Chev., 1/2-ton, needs clutch work, \$325. 839-5772. A
Ski Boots, men's size 11, \$5. 376-5810. A
Porsche, 1959 convt., recent eng. o/haul, Michelin radial tires, Blaupunkt radio, \$1,575. 377-8731. A
Curtains, 20 panels, 62" x 24", brown & white Hawaiian print, \$15 or sell sep. 379-3487. A
Buick, 1954, p/s, p/b, new paint, \$100. 374-5712. A
House, 3-bdrm., 1 1/2 baths, bltins, d/washer, fireplace, \$29,950. 329-2174. A
Drum Set, Crown, 4-pc., cymbal & hi-hat stands, \$145. Box 108, 781-3854. A
Camera, Olympus, 35mm, range finder w/case, \$25. 375-7401. A
Chevrolet, 1959 2-dr. h/top Biscayne, 6-cyl., auto. trans., p/s, \$225. 714-528-6113. A
Tape Recorder, G.E., solid-state stereo, used 6 hrs., \$225. 320-2897. A
Austin Healey, 1955 Sportster, wire wheels, \$200. 679-7840. A
Sewing Machine Cabinet, can be modified to hold portable or fix the enclosed Eldridge elec., \$20. 323-4209. A
Camera, Yashica actron subminiature, f/2.8 lens, use Minox film, \$65. 541-2071. A
House, beach area, 3-bdrm., 2 1/2 baths, living rm., family rm., sun deck, beam ceilings, \$37,500. 374-0127. A
Mini-Bike, 8 h.p., lights, horn, dual tanks, racing seat, \$158.50. 393-5649. A
Mini-Bike, 4 h.p. Briggs & Stratton eng., clutch driven, o/hailed, \$135. 373-3111. A
Sailboat, 24' Star Class day sailer, \$1,095. 326-8009, 534-0610. A
Sunbeam Rapier, 1961 sedan, 36,000 miles, r/h, \$250. 754-5358. A
Hi-Fi Cabinet, 2' x 2' x 3' 2-adj. shelves, pull-out drawer for changer, \$20. 426-4060. A
Bumper Jack, Saf-Lift, \$5. 679-3052. A
Tape Recorder, 4-track, 3-spd., stereo, all attachments, Concord 444 model, \$150. 323-2385. A
Station Wagon, 1967 Ford Country sedan, 6-pass., 390 2V eng., a/c, auto., p/s, p/b, \$3,250. 324-2992. A

For Sale
Corvette, 1964 Fastback, AM-FM, p/s, auto. trans., \$2,295. 823-4703. A
Stove, Maytag, gas, \$50. 329-7447. A
Ski Boots, dble. boots, size 6, \$7.50. 328-6662. A
Dresser, mahogany, & vanity w/mirror, \$35. 674-8997. A
Cadillac, 1958, Coupe DeVille, heater, full power, needs paint, \$275. Box 109. A
Boat, 14' catamaran, 2 35 h.p. Mercury elec. start, trailer, tach., \$775. 675-3254. A
Station Wagon, 1960 Chevrolet, V-8, r/h, auto., \$375. 714-962-5713. A
Station Wagon, 1959 Plymouth, V-8, auto. trans. recently o/hailed, p/s, a/c, \$250. 324-7850. A
Porsche, 1955 Speedster, new paint, \$1,499. 325-1479. A
Corvaire Monza, 1961, rebilt. 4-spd., new clutch & brakes, \$395. Box 110. A
Outboard Motor, 75 h.p. Johnson, under 100 hrs., \$645. 379-2326. A
Washer, Kenmore, \$25. 370-4475. A
Stove, gas, apt. size, \$25. 326-5448. A
Freezer, Coldspot w/lock, \$65. 329-3721. A
Trailer, 1/4-ton, spare tire, \$75. 377-3642. A
House, completely remodeled, 3-bdrm., convt. den, 2 baths, w/w cpt., dps., f/a heating, fireplace, bltins, 2-car gar., patio, small sep. studio, fenced yd., \$43,000. 475-2101. A
Box Spring & mattress, Serta, 54"x80", extra long, \$25. 645-3986. A
Suzuki, 1966, 150 cc bored to 160 w/extra chrome, \$315. 378-1561. A
Lot, 1/2 acre bldg. site in Agoura, horses o.k., city water, electricity & phones, \$8,500. 783-8271. A
Station Wagon, 9-pass., 1966 Pontiac, air cond., many extras, 31,000 miles, \$2,995. 324-5342. A
Chevrolet, 1957 Bel Air, V-8, 4-dr. h/top, auto. trans., r/h, p/s, \$200. 755-6830. A
Typewriter, Remington Deluxe portable w/case, approx. 10 yrs. old, \$50. 714-635-1686. A
Oldsmobile, 1962 convt., complete o/haul, full power, fact. air, \$1,195. 836-0507. A
Washer, Maytag auto., \$35. 326-1876. A
Buick, 1955 Riviera, p/s, p/b, p/w, \$300. 478-1456. A
Honda, 1966, 160 cc, w/factory 175 cc kit, extras avail., \$350. 679-3181. A
F.I. Heads, for 327 Chev., ported & polished, screw-in studs, \$100. 545-5345. A
TV, 1959 RCA Victor 21", console, \$35. 679-6318. A
Tape Player, stereo, 8 & 4-track cartridge, autostonic, \$100. 675-4505. A
Coin Viewer, Scan-O-Matic, \$7. 324-9013. A
Bicycle, boy's Schwinn Sting Ray, \$20. 823-1788. A
Camper, fiberglass, fits 8' truck bed, \$100. 371-7382. A
Condominium, 4-bdrm., dble. gar., 2 1/2 baths, fireplace, near Disneyland, \$24,000. 714-638-4916. A
Tape Recorder, Webcor Regent Coronet, stereo, 2 & 4-track, \$65. 329-7998. A
Beds, twin w/box springs, mattresses, wooden frames, h/boards & f/boards, antique white, \$25. 370-7092. A
Mustang, 1967 convt., 289, p/s, 3-spd. auto., r/h, \$300 & take over \$85.10 mo. pymt., approx. bal. \$2,100. 677-4342. A

Wanted to Buy
Trailer for 13' Boston whaler boat. 776-1762. B
Range, eye-level oven, gas, 40", single oven preferred. 714-836-2025. B
Range, 36", gas w/griddle & elec. refrigerator & freezer-combination. 676-8982. B
Shop Manual, 1963 Pontiac Bonneville, with or w/out 1964 supplement. 944-5946. B
Trains, old elec., manufactured prior to World War II. 714-879-0537. B
Supercharger, VS57 Paxton without accessories. 693-4117. B
Transportation Car, must be reasonably priced & mechanically reliable. Box 111. B

Free (To Be Given Away)
Lumber, lge. yard full of used or old 2x4's, 2x6's, 1x6's incl. shed & lean-to. 377-1075. D
Dog, female, weimaraner & queenland heeler. 714-879-9756. D
Dog, female, black & white, 1 yr. old, 16" high, 20 lbs. 320-6388. D

Rentals Offered
Room, 5 min. from Northrop, pvt. entrance & bath, \$10 wk. 676-6841. E
Apt, 2-bdrm., bltins, garb. disp., closed gar., small yard, all elec., 20 min. to Norair, \$125 unfurn., \$145 furn. 375-2091, 375-9397. E
Apt, 2 bdrm., furn., bltins, ocean view, \$145. mo. 372-5808. E
Townhouse, 3-bdrm., 3 baths, bltins, air cond., landscape & pool maint. inc., avail. Feb. 1, \$225 mo. lease or \$250 mo. rent. 889-1554. E
House, 3-bdrm., 2 baths, fam. rm. w/stone fireplace, 5 min. from Northrop, unfurn., \$170 mo. 321-6973. E
Apt, 2-bdrm., furn., pool, closed gar., near El Camino, \$165. 324-8373. E
House, 4-bdrm., unfurn., 1 1/4 baths, fam. rm. & bar, near Norair, \$200 mo. 476-4358. E
Cabin, Green Valley Lake, sleeps 12, \$35. w/end; \$55 wk. 320-2002. E

Rentals Offered
Apt, 2-bdrm., unfurn., water & trash paid, \$100 mo. 325-5705. E
Apt, unfurn., 2-bdrm., 1 1/2 baths, bltins, closed gar., adults, \$130 mo. 675-2438. E
Apt, 1-bdrm., 3 blocks from King Harbor, bltins, gar. w/storage cabinets, \$110. 376-9608. E
Apt, 1-bdrm., furn., all bltins, pvt. deck, lge. pool, sub parking, near Northrop, \$145. 670-6084. E
Bachelor Apt, furn., stove, refrig., 4 blocks to Northrop, all utilities pd., \$17 wk. 833-2512. E
Court Apt, 2-bdrm., fireplace, gar., pool privileges, 1/2 mi. from Northrop, \$130. 675-9667. E
Cabins, Idyllwild, 1 & 2 bdrms., fireplace, stream, patios, \$20-\$35 w/ends; \$45-\$75 wk. 754-5288. E

Rentals Wanted
House, 3-bdrm., alone on lot, unfurn., Hawthorne area, up to \$150, have baby & pets. Box 112. F

Child Care Wanted
Woman to care for 3 children in my home, days, about Jan. 22, Hawthorne area, must have own transportation, \$25 wk. 679-6219. J

Lost
Bracelet, child's gold identification, w/the name Patty on front, at NRC Christmas party, Shrine Auditorium. 675-5802. J
Glasses, pink tint, prescription, & case. Box 113. J

Personals
To the friends of Alex Trebendis: May we express our deepest gratitude for your kindness & expressions of sympathy during our recent loss. MRS. PAT TREBENDIS & FAMILY. L
Our sincere thanks to the Northrop Recreation Club & our many Northrop friends for their kindness & concern extended to Marge during her illness & hospitalization. MARGE, BUD & SHEREEN BOWSER. L
I wish to express my sincere thanks to all my friends at Northrop for their kind expressions of sympathy at the passing of my wife, Annita. D. S. FIELD. L
I wish to express my appreciation & thanks to the Northrop Blood Bank for its contribution of blood during my recent illness. JAMES M. SMITH. L
Thank you for your kind expressions of sympathy at the recent passing of my father. Your thoughts at this time will always be remembered w/sincere gratitude, the family of Harland S. Nash, sr. WAYNE NASH. L
Sincere thanks for the flowers & kind expressions of sympathy during the recent loss of my wife. ELTON J. RAWL. L
I wish to express my sincere appreciation for your kindness & thoughtfulness at the recent passing of my wife, Rose Jesse. W. E. JESSE. L
Our sincere thanks for the contribution to the Heart Association in memory of my mother, Ruth Parton. B. E. SMELSER. L

For Sale or Trade
Record Player, CBS Mastercraft monaural, 4-spd. auto changer, \$35 or consider trade for .22 cal. rifle. 941-1865. M
Firebird, Pontiac, 1967 400, mag. wheels, 4-spd., \$3,000 or trade equity for late model used car. 324-6757. M
Motorcycle, 1962 Triumph, 650 cc, \$625 or trade for VW or older Porsche. 679-4063. M
Honda, 1966, 305 cc, Superhawk, many extras, \$550 or trade for pickup truck or van of comparable value. 372-0313. M
Motorcycle, 1964 Parrilla Wildcat Scrambler, 125 cc, \$225 or trade for shotgun or rifles. 327-8477. M
Slot Car Set, 1/32 scale, new transformer & 2 hand controllers, cars, extra engs., \$15 or trade for gas model airplane material. 377-6193. M

## Mountaineers Plan Hawthorne Meeting

The NRC Mountaineers, a club of mountain climbing enthusiasts, will meet at 7:30 p.m. January 26 in the NRC Clubhouse in Hawthorne.

At the meeting, members will discuss their upcoming nine-week mountain climbing course, scheduled to begin on February 5.

The club is open to employees from all Northrop divisions and facilities. Additional information may be obtained by calling Commissioner Ken Ferrell on Norair ext. 2001.

## NRC Sponsors Dance Classes

A new year has brought a new series of ballroom dancing classes under sponsorship of NRC each Thursday evening at NRC Clubhouse, Hawthorne.

The silver waltz is offered at 8 p.m.; the Bossa Nova at 9:15 p.m.

Rides and Riders
Rides Wanted
7:30 a.m.—4:15 p.m.
Talbert & Bushard, Fountain Valley. R. B. Thompson, Norair, ext. 2094, 962-5698.
8 a.m.—4:45 p.m.
Figueroa & 228th, Wilmington. Vera Ride-out, Norair, ext. 2651, 830-4263.
Beverlywood Area, Los Angeles. Susan Gold, Norair, ext. 1314, 837-7524.
Rides Offered
7 a.m.—3:42 p.m.

Hewes & Chapman, Orange. Looking for 2 riders from Garden Grove or Orange via San Diego Fwy. Larry Slininger, Norair, ext. 2484.

# 'Speechcraft' Dinner Series Set To Begin

A new Speechcraft Course opens tomorrow night and continues for an eight-week period under the auspices of the Northrop Toastmasters Club. It is open to all Northrop men and women.

Sessions meet weekly at 6 p.m. at the Sojourn Inn, Inglewood.

Outstanding educational speakers have been booked to discuss such topics as public speaking, critical listening, evaluation, and conducting meetings, along with regular Toastmaster emphasis on extemporaneous and prepared speaking.

Registration is \$5 per person. Dinner at each session will be \$3.50.

Dick Greetan, educational vice president of the Northrop group, will be in charge of the course with Felix Dunnnett, past president, as assistant.

Mr. Greetan, ext. 1822; Mr. Dunnnett, ext. 2264; Alan Caterston, ext. 4496; or Personnel Activities, ext. 2486, at Norair and Hank Greenberger, ext. 265 at Nortronics Palos Verdes will provide information.

## Two To Serve In Cost Seminar

Two Northrop men will play key roles in a special meeting planned for February 3 (9 a.m.) by the Southern California Section, American Association of Cost Engineers.

The meeting, to be held at the North American Rockwell Recreation Center on Imperial Highway near the San Diego Freeway, covers "Use of Computers in Industry."

Jack Behrens, supervisor of Cost Estimating at Norair, will serve as program moderator. Maher Soliman, Norair computer application specialist, will speak on "Structural Logics for Computerization."

The meeting is open to all interested Northrop personnel.

## Junior Girl Scout Troop Formed

A new Girl Scout organization (Junior Troop 1202) operating from York School, Hawthorne, has joined the list of Norair NRC-sponsored scout groups in the area.

Special ceremonies recently highlighted formation of the new group under the leadership of Joan Vars. Co-leaders are Sara Fernandez and June Potter. NRC-sponsored Senior Troop 116 participated in the investiture ceremonies and members of the NRC Sea Maids (Troop 123) presented the new group an American flag.



## Lancaster To Head NV Management Club

Ron Lancaster has been elected president of the Northrop Ventura Management Club for 1968, succeeding Don Conlan in the office.

Mr. Lancaster is assistant contracts administrator on the Apollo program. He has been with Northrop since October 1964.

He and the other newly elected officers assumed their new positions on January 1.

## Class Schedules Available for Night School

Pre-semester enrollment will begin next week for night classes at four Ventura County High Schools, the Northrop Ventura Training office has announced.

The semester will begin during the week of January 29 at Thousand Oaks High School, Newbury Park High School, Oxnard High School and Simi High School.

A partial list of classes to be offered includes:

Simi—Math Skills Review, 7 to 10 p.m. Thursdays; High School Math, 7 to 10 p.m. Mondays; Advanced Math, 7 to 10 p.m. Wednesdays; Electronics Fundamentals and Schematics, 7 to 10 p.m. Wednesdays; Electronics Phase I, 7 to 10 p.m. Mondays; Manufacturing and Production Planning, 7 to 10 p.m. Tuesdays; and Production Assembly, 7 to 10 p.m. Mondays and Wednesdays.

Thousand Oaks—Metal Shop, 7 to 10 p.m. Tuesdays.

Oxnard—Machine Shop I, 6 to 9 p.m. Mondays, Wednesdays and Fridays; Plastic Laminating, 7 to 10 p.m. Mondays and Wednesdays.

Newbury Park — Blueprint Reading, 7 to 10 p.m. Tuesdays; Plastic Laminating, 7 to 10 p.m. Tuesdays and Thursdays; and Shop Math, 7 to 10 p.m. Tuesdays.

Information on these courses and junior college classes may be obtained by contacting Claudia Beaumont in the Training office, ext. 1180.

The new first vice president is Ken Geller, a production operations analyst, who has been with Ventura since November 1963.

Second vice president is senior technical writer Dean Kendle, a Northrop employee since March 1964.

Mrs. D. J. Manley, who has been with Ventura since May 1962, is the new secretary. She is secretary to W. A. Steyer, Apollo Program manager.

Denny Sherwin, the new treasurer, has been with the company since March 1956. He is administrator of general accounting.

Three directors also were elected. They are Bill Freeman, Marketing; Dick Tupper, Finance; and Ben Collins, Executive department.

Holdover directors are Bob Peterson, Quality Control; and Bill Green, Engineering.

The group's first meeting of the year will be held next month.



**MR. GASICH SPEAKS**—Welko E. Gasich, Corporate vice president and Northrop Ventura general manager, talks with Ventura employees about the progress of current programs.

Mr. Gasich stressed a need for continued awareness of the importance of quality, cost and time factors. The brief speech, before all Ventura employees, was delivered on January 4.

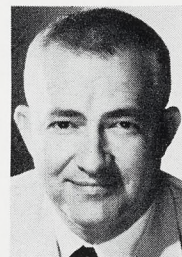


**A MERRY CHRISTMAS**—Enjoying Christmas, thanks to the generosity of Northrop Ventura employees, are these teenage girls, residents of a church-operated home for under-

privileged children. Ventura employees provided gifts for each of the 22 girls at the home. The program was initiated by employees in Ventura Marketing.

## Borst Elected President of Air Force Group

Chuck Borst, administrator of Professional Development and Training at Northrop Ventura, has been installed as president of the General Leonard E. Thomas Squadron of the Air Force Association.



Mr. Borst

Mr. Borst took office this month in ceremonies at the Huntington Sheraton Hotel in Pasadena.

The 300-member Squadron, which is headquartered at the Van Nuys Air National Guard Base, has members throughout the world. It is named for a founder of the Air National Guard.

The Air Force Association is a civilian auxiliary of the Air Force. Its purpose is to promote the programs of the Air Force through the support of civic functions, youth services and educational programs.

Mr. Borst has been a member of the Air Force Association since 1951. He joined the General Thomas Squadron in 1960, and has been an officer since 1961. He was vice president in 1967.

Mr. Borst is a graduate of the University of California at Los Angeles.

He has been with Northrop Ventura for one year.

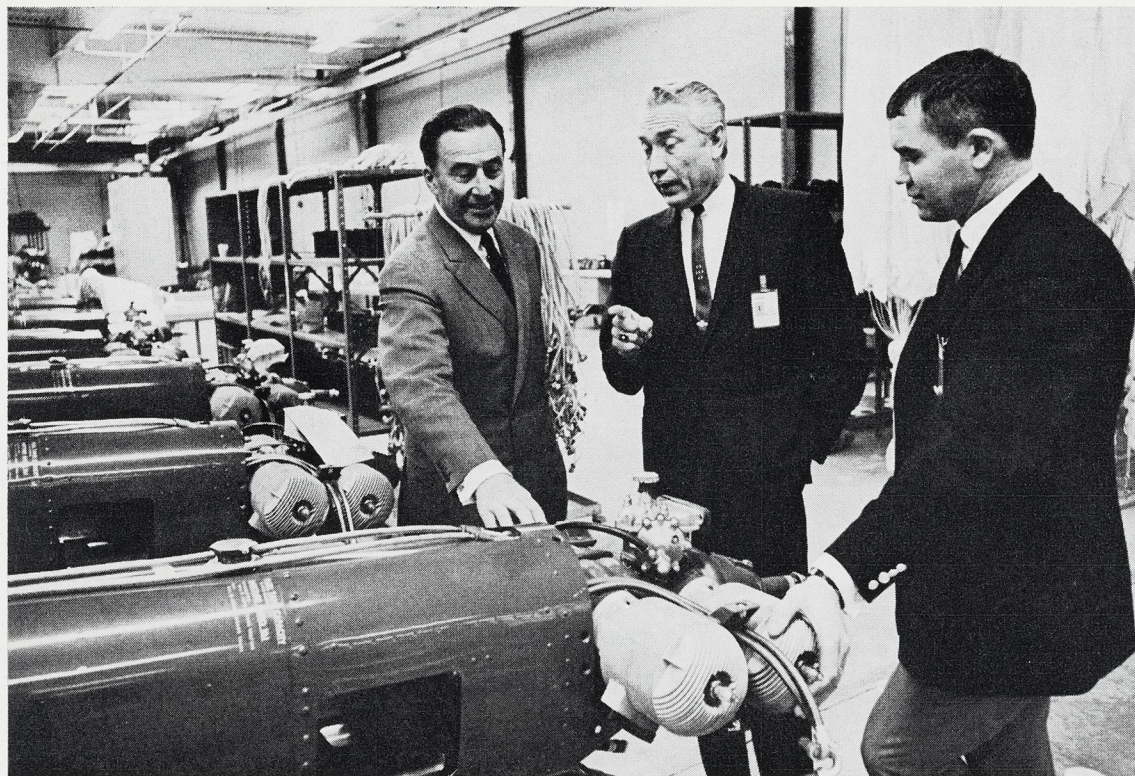
## AMPLS SYSTEM

(Continued from page 1)

the IBM Random Access Computer System, of which AMPLS II is a part, the rapid acquisition of any and all data is greatly facilitated."

Mr. Fisher, formerly of Management Systems and Organization, was one of the original business systems engineers who helped devise and implement the AMPLS system at Northrop Ventura.

The system was devised early last year.



**SWEDISH VISITORS**—Northrop Ventura's Stiles Burke (center) speaks with Thor Eliasson (left) and Martin Nyberg of Swedair, Northrop's associate in Sweden, Finland, Norway and Denmark. Mr. Eliasson is president and

general manager of the firm. Mr. Nyberg is a marketing representative. The two visited Ventura while on a recent United States trip. Swedair's Navy uses the Northrop Ventura-built KD2R-5 target drone.

## Employees Bring Merry Christmas To Teen Girls

Christmas was indeed merry last month for 22 teenage girls who, just a few days earlier, didn't expect to receive anything.

The girls, 16 through 18 years old, are residents of a church-operated home for underprivileged children. Most are from broken homes.

As a Christmas project, several employees in the Northrop Ventura Marketing department learned the names and clothing sizes of the girls. Through the operators of the home, they also learned what the girls wanted for Christmas.

The requests ranged from records to stockings to stuffed animals.

On December 19, a group of Ventura employees visited the home, which is near Thousand Oaks, and delivered the presents.



# NORTHROP NEWS

NORTHROP VENTURA

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January 31, 1968



**VENTURANS TOUR NORAIR**—Personnel from Northrop Ventura's Design Engineering group visited Norair this month as part of a series of regular monthly meetings they hold.

In this photo, the men are being shown through Plant Three, where the fuselage section for the Boeing 747 is manufactured. Norair's John Breneman conducted the tour.

## MASWT Subsystem Tested Successfully

The successful testing of one of the most important subsystems of Northrop Ventura's Mark 30 Mobile Anti-Submarine Warfare Target is the highlight of recent progress on the MASWT program.

The retrieval subsystem of the target's Integrated Handling Unit was tested at Keyport, Washington, site of the U.S. Naval Torpedo Station, before program officials and Navy personnel.

"We're extremely enthusiastic with the progress we've made in the preliminary test phase of the Mark 30," one program official said. Seventeen successful in-water tests have been conducted at Keyport, most of them with a Dynamic Test Vehicle — the first testing vehicle — which eventually will evolve into the Mark 30.

The propulsion system is next to be tested in the preliminary phase, which will continue until the fall, officials said.

Interestingly, the choppy seas and heavy swells common in the Northwest at this time of year do not present any difficulty for the test program. In fact, one official said, the test team often waits for bad weather, so the target can be tested under the most critical of water conditions.

Naval officials will visit Ventura on February 6 and 7 in the latest of a series of "task team" meetings with program personnel.

On February 8, program subcontractors will meet at Ventura. They were invited by Welko E. Gasich, Corporate vice president and Ventura general manager, "to discuss the over-all management aspects of the program from standpoints of cost, schedule and performance."

## 'Barbershop' Show To Aid Handicapped

Six Northrop Ventura men will participate this weekend in a program which, on a nationwide level, has raised more than \$300,000 in the past four years to aid children who have speech defects.

"We Sing That They Shall Speak" is the slogan of the Banners of Harmony program, to be presented at 8:15 p.m. Saturday at Park Oaks School, Thousand Oaks.

The Ventura employees — John Gurule, Seth Lewis, Don Berry, Joe Letteriello, Frank McMillen and John Morrison — are members of the Conejo Valley Chapter Chorus, which will perform.

Tickets, at \$2.50 each, may be purchased from any of the six men, or by calling 805-498-4216 or 805-495-4638. Park Oaks School is at 1335 Calle Bougainvillea, Thousand Oaks.

## NV'S PAT CUNNINGHAM

### Former Racing Great Nears Retirement

If you've been in California long enough to remember Gilmore Stadium, chances are you also remember Pat Cunningham,



Mr. Cunningham

one of the most successful drivers ever to race at Gilmore's oval track.

Mr. Cunningham's career as a race car driver spanned 30 years — from 1921 until 1951 — when he retired after a spree of three wins in three days. He hasn't been inside a speedway since.

Now, the whitehaired Mr. Cunningham has another retirement scheduled. He'll be leaving Northrop Ventura next month after more than 12 years of service, and will retire to his home state, Missouri.

In the 1930's and '40's, Mr. Cunningham traveled throughout the country, racing in such diverse locations as Syracuse, Denver, Chicago, Omaha and Milwaukee, as well as Los Angeles. By his own count — and he has more than a dozen scrapbooks which chronicle his career — he participated in more than 3,000 races, and won approximately 90 per cent of them.

Of all those wins, he remembers one with exceptional fondness.

"I was racing Gus Schrader at Fort Smith, Arkansas, about 1932 or so," he said. "It was a 50-mile race, and we never did get far apart. He passed me a couple of times, and I passed him a couple of times, but I didn't beat him until the final stretch of the last lap, and then I only edged him by about a wheel's length."

Mr. Cunningham, a senior inspector in Quality Control,

doesn't like to single out any one win, however. "Every one you win means something," he said.

Throughout his career, Mr. Cunningham often drove Offenhauser-powered midget racers. He drove at Gilmore from 1936 until 1948. It was there that he defeated Rex Mays, one of the most famous names in the history of the sport.

"That was in 1938," Mr. Cunningham recalled. "We were going to race for the best three out of five, but I beat him three in a row, and that did it. I raced Mays all over the country. I beat him a lot — but then, he beat me a lot, too."

Mr. Cunningham also raced against the late Bill Vukovich, and says of him:

"Vukie had the touch. I never saw anyone like him. He went deeper into the turns and came out harder into the straightaways than anyone else in the game. He always looked as if the track was built just for him."

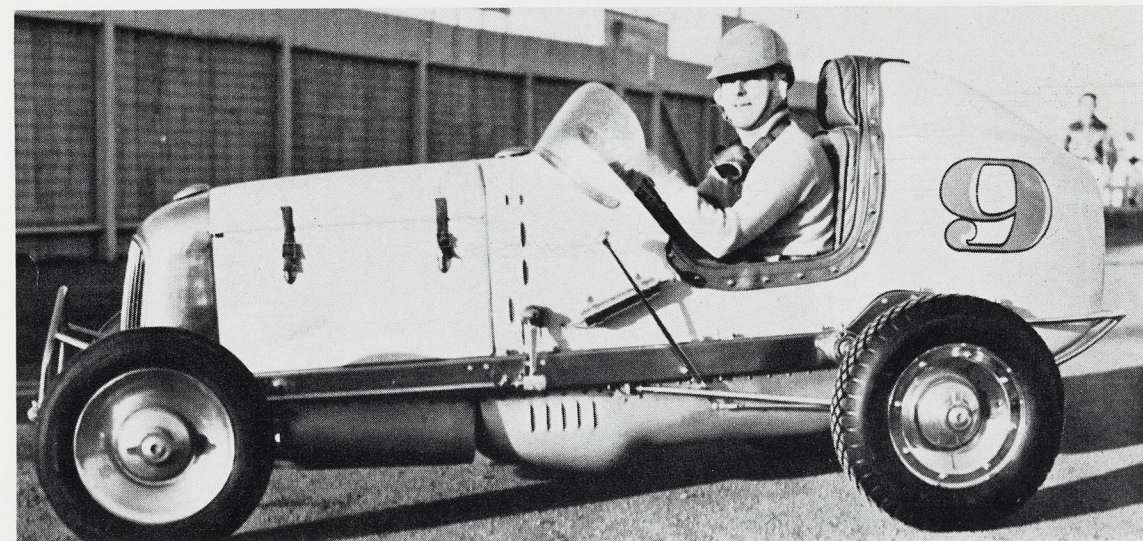
Mr. Cunningham recalled his most unusual win.

"I was out in front and speeding down the stretch toward the checkered flag," he said, "when all of a sudden, the car flipped. I was upside down and backwards when I crossed the finish line. I never did know what happened, but that pavement just about wore my helmet out."

The former star believes drivers' skill has become of secondary importance to the power of the cars in recent years.

"The cars have so much power," he said, "that driving performance isn't as important as it used to be. It's all horsepower and big tires, and the machine becomes more important than the man. As for those new turbine cars, I just don't see them. That's an airplane engine. It just doesn't belong in a car."

"It's been a pleasure to work for this company," he said of his years at Northrop. "I've enjoyed it, but Dorothy and I are going to do some traveling, and I'll get some fishing in. You might say I've had about everything in life I've ever wanted. I have no complaints."



**A BRILLIANT CAREER**—The cars changed, but the driver was the same, during the 30-year racing career of Northrop Ventura's Pat Cunningham. The top photo, taken in 1927, shows

Mr. Cunningham in St. Joseph, Missouri. The bottom picture, made in 1938, shows him in Los Angeles' old Gilmore Stadium. Mr. Cunningham will retire next month.



## Northrop Aids Chile In Air Travel Study

The technical, economic and management expertise of Northrop's Organization for Development Assistance Programs (ORDAP) has been blended with a significant accomplishment in computer programming by Northrop Data Processing to complete a *tour de force* in planning an air transportation program on the national level.

The opportunity for Northrop to apply its advanced technology was provided by the Republic of Chile through its Junta de Aeronautica Civil (JAC), the Chilean equivalent of the U.S. Civil Aeronautics Board. The analysis of Chilean air transportation, from the present through 1972, was conducted by a joint U.S.-Chilean team under the direction of the ORDAP staff, headed by James L. Taylor.

In one of two major developments by Northrop during the contracted study, the ORDAP team was able to program for its 360/65 computer system a complete physical description of the South American nation, the characteristics of 56 aircraft models, all major components of the present air transportation system in Chile, plus a description of 195 urban centers in Chile and throughout the world with respect to their socioeconomic and air traffic characteristics.

Nearly 20,000 IBM cards were required to cover these data and the computer programs.

"With this body of information stored in its memory, the computer was able to predict the fuel and cost performance of each aircraft studied, on both national and international routes," according to Arnold Kent, ORDAP's associate director for Latin America and manager of the Chile study.

"In effect, the computer simulated thousands of hypothetical flights, considering such details as runway limitations, local fuel prices, and expected winds at the altitudes flown by jets," he added.

With the methods provided by Northrop, JAC can plan a comprehensive international or national route system and determine rapidly whether it will be economically feasible, and what the country must provide in terms of equipment and facilities.

The second equally significant advancement concerned the development of techniques for predicting what Chile's future air cargo and passenger demands would be for the period 1968-1972.

Again the computer was relied upon to compress years of manual computational work into a few minutes.

The complete package of documents supporting the Northrop study would reach the top of a six-story building if placed in a single stack.

Most of the research was performed in Santiago under the guidance of Neils E. Sorensen-Viale, a Northrop economist-engineer fluent in Spanish. Other Northrop members of the Santiago contingent were Bernard daSilva and Stuart Laurie of Northrop's Systems Evaluation section, and Kenneth Tuttle of Northrop Data Processing. Four Chilean employees of JAC rounded out the team.

### NASA's Thompson Elected by AIAA

Floyd L. Thompson, director of the National Aeronautics and Space Administration's Langley Research Center, has been elected president of the American Institute of Aeronautics and Astronautics.

Many Northrop engineers and scientists are members of the AIAA. Senior Vice President Richard E. Horner of Northrop is a past president of the 33,000-member professional society.



ORDAP IN CHILE — Arnold Kent (center), ORDAP's associate director for Latin America, is greeted at airport in Santiago, Chile, by Neils Sorensen-Viale (left), ORDAP's program director of Santiago, and Commandante Manuel

Rosas, officer in charge of Pudahuel International Airport, as he arrived to participate in air transportation planning study for Chile's Junta de Aeronautica Civil.

### Carolina Earns Defense Agency Commendation

Northrop Carolina has been commended by the Defense Supply Agency for its many achievements in 1967.

In a letter addressed to President George Douglas of Northrop Carolina, Colonel Loren P. Murray, director of the Defense Contract Administration Services for the Atlanta region, said:

"The many changes and improvements in your management and production areas, together with diligent and sustained effort, have enabled Northrop Carolina to deliver a quality product on schedule. These efforts have been readily recognized and most appreciated by this Defense Contract Administration Services Region."

In announcing receipt of the letter of commendation, Mr. Douglas declared the performance cited "is the result of the efforts of a great many people here at Northrop Carolina."

### BACK BY CHRISTMAS

## The Aquarius—On to the South Pacific

Last week a 42-foot yawl, the Aquarius, slipped out of Los Angeles Harbor and sailed southward on the first leg of a voyage many dream of making, but few manage.

Tides, winds and "Dame Fortune" willing, the Aquarius will continue south to Ecuador, cross the Pacific to the Marquis Islands, tour the fabled South Pacific Islands, visit Hawaii, then return to Los Angeles in time for Christmas 1968.

Tom Hunt, formerly of Northrop's Cost Estimating organization, is the skipper-owner.

His wife, Roberta, is the cook. His deck crew is made up of three 18-year-old boys. His son, Rolie, Howard Johnson, son of Howard Johnson, sr., of 747 Planning and Randy Anderson, son of Loren Anderson, of Major Jigs.

The voyage is the realization of a lifetime dream for the Hunts, the Aquarius is a product of their skills.

S. S. Crocker, noted marine de-

signer, created the Aquarius design which was, in turn, built by the Hunt family over a five-year period. It represents more than 4,000 man-hours of labor logged on weekends, evenings and holidays.

The Aquarius was built for deep water sailing with this voyage foremost in the minds of the workers. It has all of the standard radio and navigation equipment found on boats of its size and class. It has an auxiliary engine with fuel for 1,200 miles of powered cruising. However, the three sails carried on the two masts (800 feet) will provide the primary propulsion system. There is an 80-gallon fresh water tank with provisions for trapping rain water. And a 24-volt battery system is available for refrigeration and electrical power.

Provisions packed aboard are sufficient for one year and will be augmented by purchases at ports of call. The Hunts canned 400 jars of meats and sauces and laid in 500 pounds of flour, 700

source development; what reserves of manpower, management, and money can be applied; and the role of the government in such an effort."

The morning symposium session, to be chaired by Dr. Sullivan, will explore marine science requirements and resources. The afternoon panel will investigate investment and the role of government. USC's Dr. Robert R. Dockson will be chairman.

### H. B. Dean To Head New Jersey Office

Glenn R. Lord, Corporate vice president of Marketing, has announced the establishment of a Northrop district office in northern New Jersey, to be called the Fort Monmouth District Office.

H. B. Dean has been appointed regional representative, and will head the office. He will report to J. B. Meagher, manager of the Northrop Northeast Regional Office in Boston.

### Discount Tickets Available for Lakers, Kings

Northrop Recreation Clubs have obtained 300 reserved seats for each of two outstanding sports events at the beautiful new Forum in Inglewood.

Those tickets are now available at discount rates through Personnel Activities outlets at all Northrop facilities.

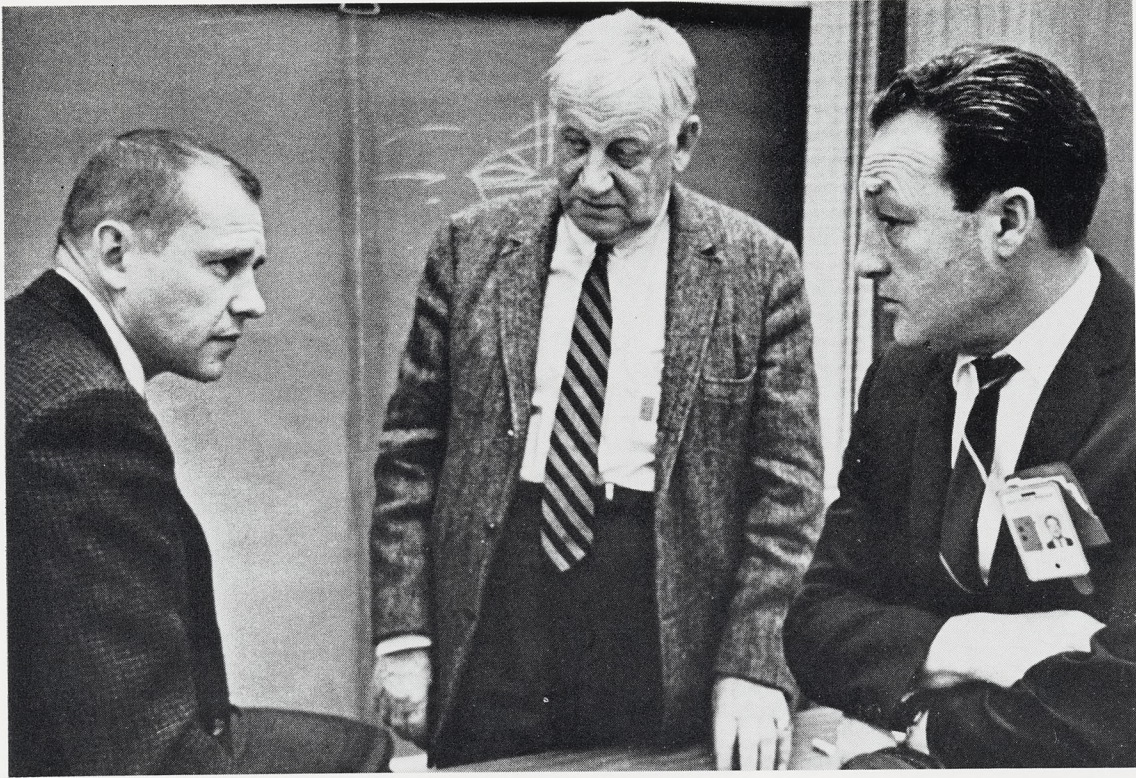
Regular \$4 tickets for the February 12 (8 p.m.) hockey game between the Los Angeles Kings and the Toronto Maple Leafs are available for \$2.90 each.

And regular \$3.50 tickets for the February 21 (8 p.m.) basketball game between the Los Angeles Lakers and the Boston Celtics are available at \$2.50 each.



THE AQUARIUS—Trailing a small dinghy behind it, the 42-foot Aquarius leaves Los Angeles Harbor on a shakedown cruise. The yawl left Los Angeles last week for a trip to South America, Hawaii and the South Pacific. It carries a crew of five.





**DISCUSSING THE BOOM**—Tony Plattner (left), technical editor of *Aviation Week* magazine, discusses sonic boom theories with Dr. Gustav Andrew (center) and Maurice S. Cahn

of Northrop. Mr. Cahn and Dr. Andrew presented an AIAA paper in New York which described fundamental research on one possible approach to diminishing the sonic boom.

### THREE GENERATIONS

## The Haizlips and Northrop

Fathers and sons, and even mothers and daughters, working at the same division are not uncommon among Northrop Corporation personnel. However, the Haizlip family may hold some record along family-connection lines.

Three generations of Haizlips have served Northrop, including two generations currently employed.

Confusing the matter is the fact each of the three male members answers to the name of Jimmy Haizlip. Only different middle initials set them aside.

Jimmy G. Haizlip (the grandfather) started things when he joined Norair in 1951 where he worked in Service Publications until his retirement in 1961. His wife, Mary, was also a Northrop employee.

Mr. Haizlip is a noted pilot

who began flying in 1917. In 1926, when the United States began issuing licenses to pilots, Mr. Haizlip received license 289. He compiled a distinguished record as an engineering test pilot with major aerospace firms prior to joining Northrop.

Jimmy H. Haizlip (the father) came to Northrop in 1952 and is currently an engineering specialist in the Nortronics DSSP organization. His wife, Audrey, was a Norair Engineering employee.

Jimmy W. Haizlip (the grandson and son) joined Norair 18 months ago and is currently in Timekeeping.

And that's not all. Seventeen-year-old Michael Haizlip (a grandson, son and brother) is studying engineering at El Camino College and would like to continue the Haizlip tradition at Northrop once he graduates.

### Aspen Ski Trip Deadline Set

Tomorrow (February 1) is the deadline for reserving a place on an all-Northrop Travel Club excursion to Aspen, Colorado, departing March 30 and returning April 6.

The \$192.50 per person price includes round trip air transportation, seven nights' lodging with continental breakfast, and a six-day ski lift ticket.

Contact Personnel Activities for information.

### P. R. Manager Named by Page

Page Communications Engineers, Northrop's subsidiary in Washington, D.C., has appointed Mrs. Harriett Manley manager of Advertising, Sales Promotion and Public Relations.

The appointment was announced by W. E. Sutter, Page's vice president and senior director of Marketing.

Mrs. Manley is a member of the Armed Forces Communications and Electronics Association, and is executive secretary of the group's Washington Chapter.

## Sonic Boom Studies Outlined by Engineers

The forward expulsion of electricity by supersonic aircraft could possibly diminish the sonic boom, two Northrop engineers said last week at the sixth Aerospace Sciences Meeting of the American Institute of Aeronautics and Astronautics.

In a paper delivered to the AIAA's Atmospheric Flight Mechanics conference in New York, Maurice S. Cahn and Dr. Gustav M. Andrew of Norair described experiments which indicate that it may be possible to alter the flow of air around an airplane with electrostatic forces.

Sonic booms occur when air is suddenly deflected by aircraft moving faster than the speed of sound, creating shock waves. Subsonic aircraft do not cause booms because they exert a pressure disturbance in the air which, traveling at the speed of sound, "alerts" the air ahead that something is coming, causing the air to alter its flow.

Supersonic aircraft also create a pressure disturbance but because the aircraft is moving faster than the signals from these pressure disturbances, the air ahead is not alerted in time to alter its flow. The abrupt changes generated in the air as the aircraft approaches are the cause of booms.

If an electrical voltage could be applied to a supersonic airplane, or at least to its forward part, the oncoming air particles which are likewise charged would anticipate the presence of the aircraft because of the well-known electrostatic repulsion between ions of a like charge, the engineers determined.

As a result of this repulsion, particles of air would change their path and flow smoothly around the aircraft as in subsonic flight or at least make the sudden piling up of air against the aircraft less abrupt. Consequently, the shock wave possibly could either be eliminated or greatly reduced, the researchers said.

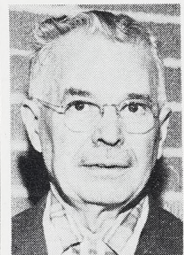
They described their work to date as fundamental aerodynamic research. They have given the name "electroaerodynamics" to their current research.

Although small-scale wind tunnel and liquid surface tests substantiated certain basic assumptions of the theory, the engineers emphasized that further research, including tests in a wind tunnel, would be required before any conclusive data could be obtained.

## 25-Year Award Not Enough for 38-Year Man

Officials at Northrop Carolina had something of a problem when it became time to honor Herbert C. Heineman with a service award pin.

The situation was that Mr. Heineman, director of Metrology



Mr. Heineman



Mr. Sorton

and Laboratory Services, has more than 38 years of service with the company and its predecessors, while Northrop to date only offers a 25-year pin.

Mr. Heineman joined Celanese Corporation in August 1929, and became chief chemist. In November 1959, the company became Amcel Propulsion Company. In 1965, when Northrop acquired Amcel, Mr. Heineman became a part of Northrop Carolina.

The problem was solved when George Douglas, Northrop Carolina president, presented Mr. Heineman with a 25-year pin and a 10-year pin.

As one official pointed out, the dilemma may return in 18 months. At that time, Mr. Heineman will have completed 40 years of service.

Mr. Douglas also honored John Sorton, director of Financial Forecasts and Indirect Budgets, who joined Celanese in July 1939, and has more than 28 years of uninterrupted service.



**TRYING FOR SIZE**—the cockpit of an F-5 fighter at Norair is looked on by Chaplain (Captain) Clifford J. Stevens, USAF, as Colonel Richard McLaughlin, USAF, and Norair's Dan O'Halloran look on. The colonel is the brother of Norair's Jerry McLaughlin. Chaplain Stevens is an author and noted flight enthusiast, having flown at Mach II during his career.

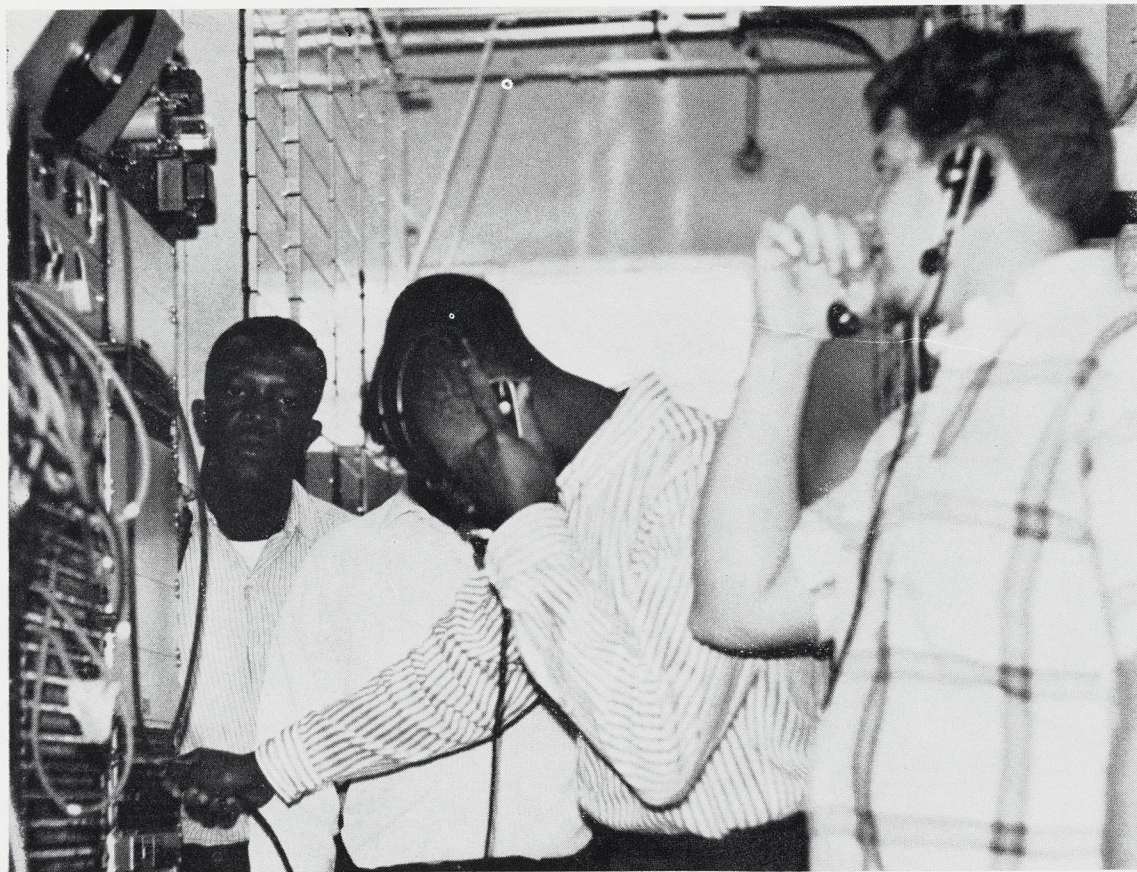


**MORE THAN \$3 MILLION**—Northrop Welfare Coordinator Marie Tully presents a check to John Lowry, president of AID-United Givers. Northrop employees have pledged \$329,000 to charity in the current fiscal year, bringing

total contributions since 1955 to more than \$3.2 million. AID-United Givers distributes the funds to charitable institutions in more than 200 communities throughout the United States where Northrop employees live.

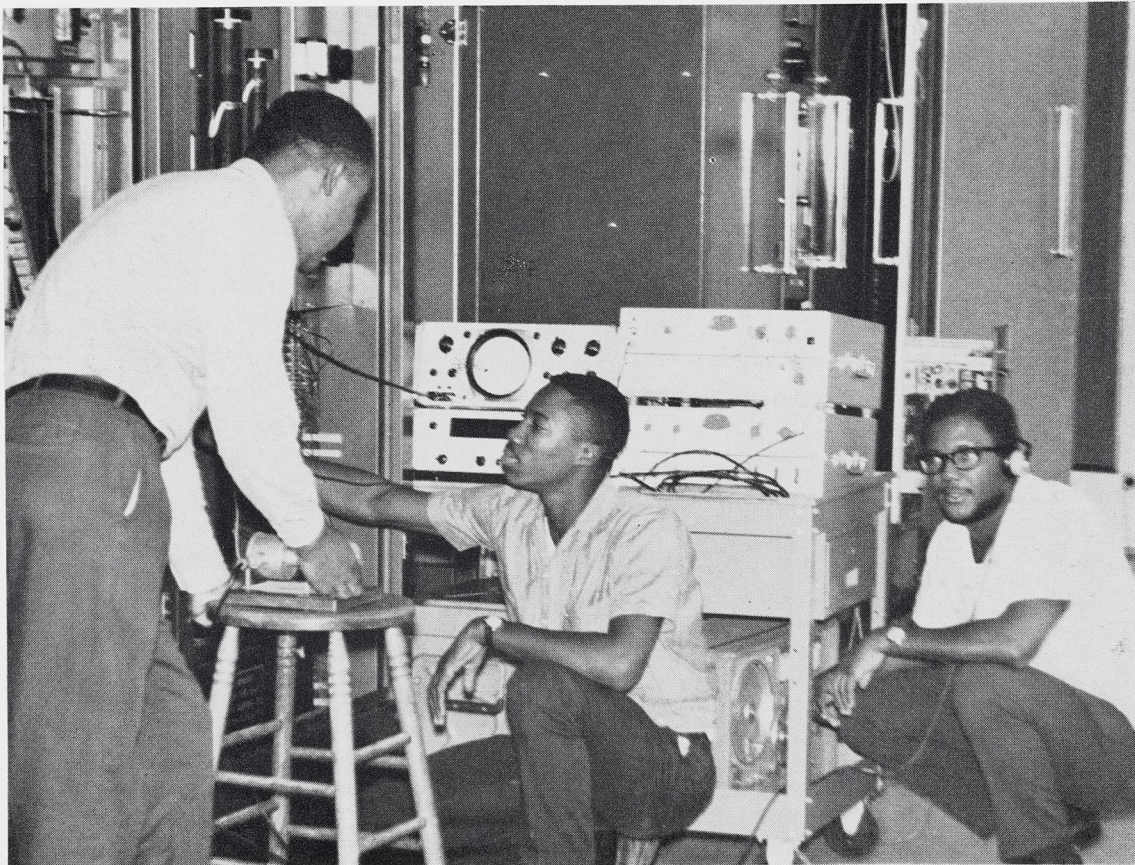
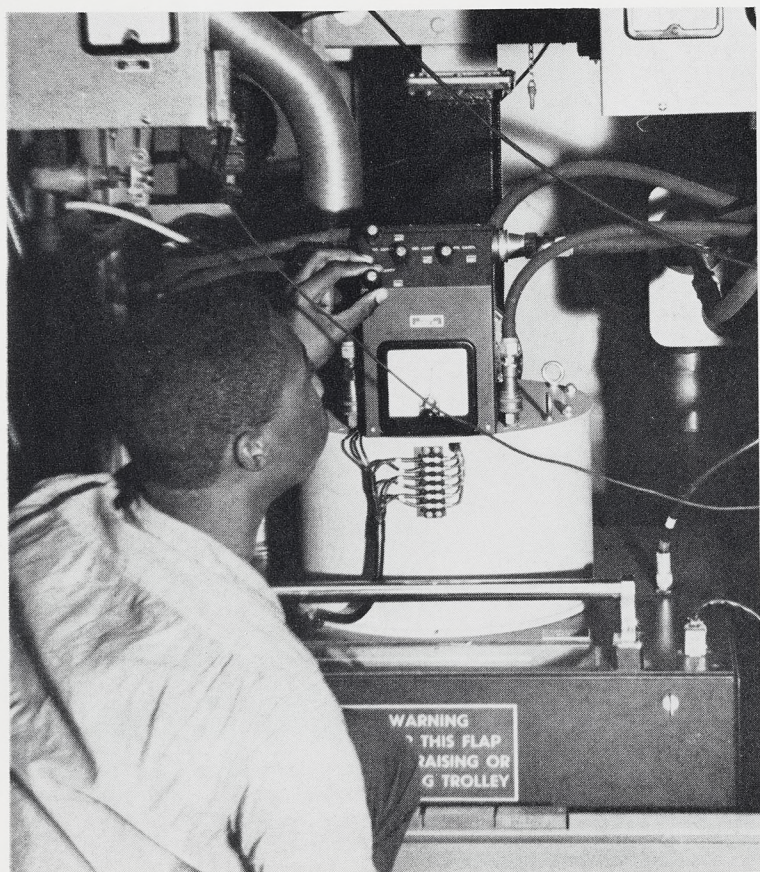
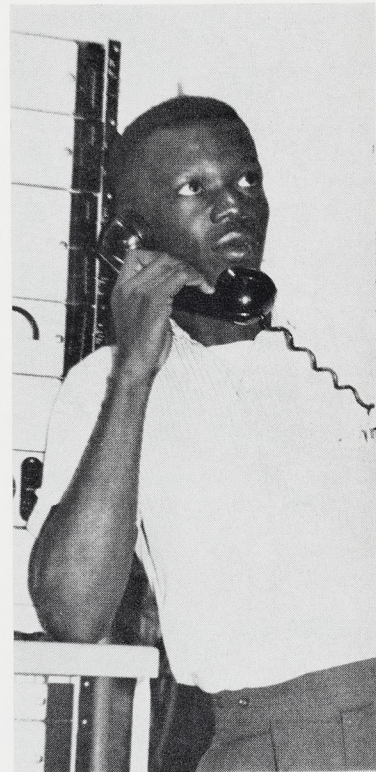
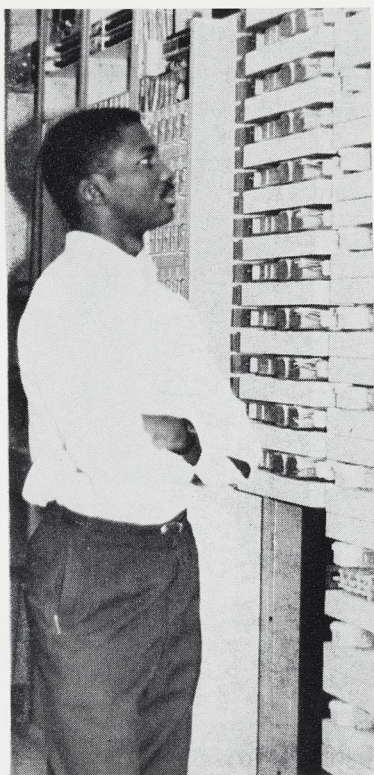


## Page, BATELCO Link Bahamas, U.S.



*PAGE IN THE BAHAMAS—Page Communications, working with the Bahamas Telecommunications Corporation (BATELCO), has expedited the flow of telephone traffic between the islands and the U.S. mainland. Page designed and installed troposcatter links and toll switching facilities, and increased channel facilities.*

*These pictures tell the story. Above, Page installer S. Young (right) works with BATELCO technicians. At right, A. B. Sherman of BATELCO makes arrangements for the switch-over to the new equipment. In the other photos, Page and BATELCO personnel work together to test, inspect and activate the new system.*





# Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

## For Sale

**Snowmobile**, 1967 Polaris Colt 140, 15 h.p. Hirth eng., 1 1/2 hrs. total time, with trailer, \$900; \$800 w/out. 758-9182. A

**Dodge**, 1960 Dart, r/h, auto., 4-dr. sedan, \$350. 375-7401. A

**Mercury**, 1967 Cougar, p/s, p/b, 289 cu. in. V-8 eng., 6,000 miles, \$800 & take over \$102.06 mo. pymts., \$3,100 approx. bal., 373-4074. A

**Parts Auto**, 1957 Metro, no eng., \$50. 714-526-2962. A

**Camper**, 1966 Volkswagen, push button radio, \$2,695. 674-1825. A

**Chevrolet**, 1960 Bel Air, sedan, \$300. 839-5772. A

**Chevrolet** 1965 Malibu SS, V8 auto., p/b, p/s, \$1,850. 371-4560. A

**Oldsmobile 88**, 1955 2-dr. h/top, body damaged, B&M Hydro stick, many extras, \$175. 672-7601. A

**Corvette**, 1965 coupe, 425 h.p. eng., 4-spd., pos. 4-11 rear end, side-mounted exhaust sys., disc power brakes, \$3,200. 754-7861. A

**Ford**, 1959 Fairlane, \$150. 714-538-3495. A

**Mustang**, 1966, V-8, 3-spd., 16,000 miles, \$1,700. 375-0165. A

**Mercury**, 1961, p/s, p/b, r/h, factory air, \$350. 645-3382. A

**Front End**, for 1964 Plymouth, alum., less hood, \$75. 677-5285. A

**Chevelle**, 1966 Malibu 2-dr., 220 h.p., 3.35 positraction rear end, 4-spd., many extras, \$2,300. 371-9925. A

**Buick**, 1955, r/h, p/s, auto. trans., \$175. 670-2762. A

**Ford**, 1955 4-dr., \$125. 676-5928. A

**Pontiac**, Bonneville, 1960 2-dr. h/top, r/h, air, \$550. 672-1036. A

**Renault Dauphine**, 1961, 37,000 miles, r/h, \$250. 714-842-8449. A

**Austin Healey**, w/h/top, \$500. 677-2752. A

**Cadillac**, 1965 coupe De Ville, full power & air cond., \$3,500. 328-6863. A

**Corvair Monza**, 1961, auto. trans., new tires & brakes, \$495. 865-7776. A

**Exhaust System**, complete, from 1966 VW 1300, \$20. 375-8536. A

**Television Set**, 19" all-channel, w/rollabout stand & RCA Stratopower antenna, \$60. 675-8829. A

**Chevelle**, 1965 Malibu, 2-dr. h/top, V-8, auto., p/s, \$1,450. 714-539-2518. A

**Plymouth**, 1962 Fury, 4-dr. h/top, auto. trans., p/s, \$695. 714-897-9911. A

**Drill Press**, Craftsman Stand, w/1/2" chuck, 1/2 h.p. 1750 rpm motor & stand, \$75. 714-528-7636. A

**Stove**, Magic Chef, gas, \$25. 714-672-5665. A

**Laundry Tray**, cast iron porcelain finish, \$10. 323-8797. A

**Lawnmower**, Sears, reel-type, power, \$35. 882-0761. A

**Slide Projector**, Leitz, Pradovit, \$90. 672-7167. A

**Surfboard**, Bing, custom, 9'4", \$65. 675-2331. A

**House**, 7-room, 1,750 sq. ft. panelled fam. rm. w/stone fireplace, 2 baths, 5 min. from Northrop, \$27,850. 321-6973. A

**Dryer**, gas, \$60. 674-6227. A

**Stove**, gas, \$35. 326-5448. A

**House**, 3-bdrm., cpts., dps., dble. gar., new paint, near Northrop, no down G.I., \$23,950. 327-6704. A

**Amplifiers**, Fender-Jazzmaster, Silvertone & Jazz brass bassman, \$750. 714-830-2835. A

**House**, 4-bdrm., 1 1/2 baths, bltins, block wall fence, dble. attach. gar., used-brick fireplace, 30 min. from Norair, assume 5 1/4% FHA loan, \$22,500. 714-897-9075. A

**Desk**, secretarial, left-hand, wood w/post chair, \$20. 633-2395. A

**Lens**, 85-210 mm f:4.8 sun zoom, T-mount for SLR, \$75. 835-3869. A

**Slip Lot**, Salton Sea, for house & sep. boat dock on channel, near yacht club, \$7,100. 714-535-1694. A

**Porsche**, 1955 Speedster 1500, new paint, \$1,499. 325-1479. A

**TV**, 1960 21" Admiral console, French provincial cabinet, \$35. 679-6318. A

**Suitcase**, by Atlantic, blackwatch plaid, 26x 21x9, plus carry-on bag, \$10. 477-8791. A

**Amplifier**, stereo & tuner, Heathkit models AJ-41 & AA-100, \$198.50. 434-7791. A

**Camera**, 35mm Argus C-3, \$25. 377-6435. A

**TV**, 21" RCA table model & stand, \$30. 371-8395. A

**Exercising Machine**, Stauffer, \$100. 679-5610. A

**Washer**, automatic, \$15. Box 201. A

**Motorcycle**, 1966 Bridgestone, 90 Mountaineer, 88cc, rear saddle & chrome rack, \$250. 679-2759. A

## For Sale

**Honda**, 1966 Superhawk, 305 cc, many extras, \$550. 372-0313. A

**Shotgun Shells**, 12 gauge, paper, fired once, .02" ea. 327-4585. A

**Train Layout**, H.O., switches, bridges, engs., cars, \$15. 675-8173. A

**Rugs**, pads, 10x27, 12x12, 8x8, 6x5, 12x15, light beige, wool, 12x15, blue-gray, \$50. 597-2260. A

**Ski Poles**, tapered steel, 5'9", \$7.50. 376-5810. A

**Record Tree**, gold, hangers for 100 albums, \$20. 644-1213. A

**Roaster Oven**, Westinghouse, baking dishes inc., \$15. 867-4362. A

**Camera**, 8 mm Minolta movie w/case, zoom lens, f/1.8, & filter, \$70. 714-635-8160. A

**Slot Car Outfit**, H.O. gauge, \$8. 379-5690. A

**TV-Stereo** combination, \$150. 329-6848. A

**Buffet**, mahogany, 20"x60", 2 drawers, 2 cabinets, \$35. 328-6839. A

**R.C. Equipment**, P.C.S. proportional radio, 5 channels, Sr. Falcon w/super tigre, 60 r.f. \$295. 673-3251. A

**Piano**, upright, mirror top, mahogany finish, \$150. 848-1432. A

**Power Mower**, 20" reel-type, recently o/hailed, adjusted & sharpened, \$40. 326-5731. A

**Table Saw**, 8", band saw, belt & disc sander, metal engine lathe, all w/motors, \$200. 325-3452. A

**Trail Bike**, 1965 Mustang, front & rear susp., 4-spd., \$250. 676-8557. A

**Ski Boots**, men's size 8 1/2, \$20. 429-6277, 714-536-4857. A

**Tires & wheels**, 3 General 5.70 / 5.00-8 mounted on 4-hole wheels, \$15 ea. 325-2292. A

**Baby Chair**, rocker, walker, bouncer comb., \$2. 323-4257. A

**Television**, Packard Bell, 23" console, b&w, \$50. 372-3287. A

**Exerciser**, \$40. 714-847-4871. A

**Top**, canvas, w/adjustable alum. frame for Chevrolet Fleetside pickup, \$35. 676-7357. A

**Acreage**, Lancaster area, 20 acres, 1/2-mile so. of Antelope Valley Jr. College, low dn. \$5,500 acre. 805-948-1171, 805-947-8389. A

**House**, 3-bdrm., 2 baths, corner lot, fenced backyard, patio, \$19,500. 805-498-2365. A

**Shelby**, 1967 GT 500, p/s, p/b, auto. trans., \$4,300. 675-1365. A

**House**, 1-bdrm., fireplace, 2-car gar., on 2 R-1 lots, terms, \$21,500. 374-6898. A

**Dishwasher**, portable, G.E. Mobile Maid, 4 yrs. old, \$85. 545-3941. A

**Mattress**, never used, medium firm, \$30. 672-0426. A

**Record Player**, stereo, Mustang solid-state, 2 mos. old, \$35. 329-6949. A

**Typewriter**, \$30. 714-539-2098. A

**Honda**, CL160, 1966, \$350. 373-3669. A

**Pups**, collie, AKC, show stock, \$125. 370-4475. A

**Casement Windows**, steel w/glass, 2 39" wide x 75" high, 2 39" wide x 49" high & 4 24" wide x 38" high w/swing-out windows, \$59 or sell sep. 328-1520. A

**Box Spring**, mattress & frame, single, \$20. 377-4943. A

**Bicycle**, girl's standard, \$12. 328-3306. A

**Trailer**, 1/4-ton, spare tire, \$75. 377-3642. A

**Trailer Hitch**, Mustang, never used, \$10. 374-3164. A

**SCUBA Diving Gear**, dble. 44 cu. ft. tank, single hose regulator, \$140. 370-4315. A

**Range**, Wedgewood, gas, \$40. 394-0402. A

**Oldsmobile 88**, 1957 h/top Holiday, auto. trans., \$220. 805-495-8178. A

**Chevrolet**, 1960 Biscayne, V-8, 3-spd., 2-dr., \$150. 677-3920. A

**Ring Set**, engagement & wedding, \$200. 376-6182. A

**Movie Camera**, 8mm, Revere turret, telephoto, wide angle w/case, projector, editor & screen, \$67. 325-5838. A

**Ice Skates**, girl's, white, size 5 1/2, Canadian make, \$10. 375-7038. A

**Dinette Set**, 30"x48" table, leaf, 4 chairs, \$25. 714-828-0591. A

**Stereo Components**, tuner, amplifier, turn table, speakers, \$100. 635-2648. A

**Piper Cub J3**, 1946, 600 hrs. s.m.o.h., new ceconite covering, radio w/omni directional, \$1,950. 379-0324. A

**Home**, 3-bdrm., 1 1/4 baths, custom-built, cpts., dps., many deluxe bltin features, fenced rear yard, 2 miles from Plant I. \$28,500. 675-8829. A

**Acreage**, 5 acres, near Willow Springs, on good road, \$35 dn., \$35 mo. inc. 6% interest, \$3,500. 378-1026. A

**Ford**, 1954, 8-cyl., 2-dr., new bat., voltage reg. & generator, \$150. 677-6797. A

**Piano**, upright, \$175. 675-3541. A

**Hair Dryer**, professional, \$40. 675-1094. A

**Culver Cadet LFA**, 90 h.p. Franklin eng., 400 hrs. since m.o.h., recovered w/ceconite, \$2,700. 674-5476. A

**Lot**, 1/2 acre bldg. site in Agoura, horses o.k., city water, electricity & phones, \$8,500. 783-8271. A

**Mustang**, 1966 h/top, 6-cyl., r/h, Cruise-o-matic, \$1,600. 676-3388. A

**Xylophone**, Deagan, \$125. 329-5364. A

**Stove**, gas, 4 burners, oven & broiler w/rotisserie, \$35. Box 202. A

**Pantograph**, 30" professional unit, wood case, \$15. 379-3487. A

**Motorcycle**, 1965 Greeves, 250 cc, new upper end, \$400. 325-9033. A

## For Sale

**House**, in Palmdale, on 62x145' lot, 5-bdrm. & fam. rm., 1 3/4 baths, h/wood flrs., lge. patio, dble. gar., fenced back yd., 4 1/2% loan, 5 min. to Norair Plant 42, \$18,500. 805-947-6754. A

**Television**, Magnavox Low Boy, 23", b&w, mahogany cabinet, \$50. 644-5852. A

**Pups**, airedale, \$125. 698-2785. A

**Tape Recorder**, Concord stereo 880, 2 microphones, speakers, other features, \$200. 325-3724. A

**Truck**, Chevrolet, 1/2-ton, w/Stahl service body, \$995. 564-2263. A

**House**, Palmdale, 3-bdrm., 1 1/2 baths, chain link fence, det. gar., G.I. loan, \$12,750. 325-3057. A

**Organ**, Lowrey Holiday, \$500. 675-3931. A

**Acreage**, 2 1/2-acre parcel, Antelope Valley, \$1,500 down, \$50 mo., 6% interest, \$5,500. 375-7130. A

**Guitar**, elec., amplifier & leather carrying case, \$70. 639-5575. A

**T-Bird**, 1955, r/h, 3-spd., overdrive trans., 406 eng., \$1,200. 371-5363. A

**Station Wagon**, 1967 Ford 6-pass. Country Sedan, 390 2V eng., a/c, p/s, p/b, auto., \$3,175. 324-2992. A

**Ford**, 1961 Falcon 2-dr. sedan, good tires, \$275. 372-1013. A

**Yamaha**, 1963, 50 cc, \$125. 323-9598. A

**Mercury**, 1960 Montclair, p/s, p/b, r/h, air cond., trans. o/hailed, \$400. 372-1205. A

**Pontiac**, 1961 Bonneville 2-dr. h/top, full power, air cond., \$750. 545-5023. A

**Range**, Maytag, gas, \$50. 329-7447. A

**Refrigerator**, Philco, \$15. 377-1075. A

**Tires**, Goodyear Blue Streaks, 5, 5.00x12, wet or dry, 3 5.00x12 tubes, 4 12" whls., 5" wide, \$100. 370-3396. A

**Formal**, floor-length, deep-turquoise, empire style, matching coat, size 13, \$25. Box 203. A

**Stole**, mink, natural autumn-haze, cowl-colored w/extra-long panels, \$200. 714-533-4071. A

**Aquarium**, 20-gal. tank, motor, filter, other access., \$25. 329-6728. A

**Dishwasher**, auto., Wasteking, under counter model, \$30. 675-0788. A

**Acreage**, 1.25 acres, Antelope Valley, close to Lancaster & Edwards AFB, \$4,500. 672-4450. A

**Chevrolet**, 1963 Bel Air, 4-dr. sedan, r/h, auto. trans., \$795. 378-1531. A

**Honda 50**, 1963, model 102, \$65. 421-1300. A

**Dodge**, 1956 D-500, all power, \$125. 833-9697. A

**Dune Buggy**, fiberglass, newly built on '61 VW chassis, many extras, \$1,600. 370-2876. A

**Bed**, full size, 80" long, \$30. 675-8068. A

**Boat**, 16' open Fleetliner, bait tank, 1955 40 h.p. Mercury motor, trailer, \$550. 370-9238. A

**Cemetery Lots**, 4 in the Eventide Sec. of Green Hills Memorial Park, \$400. 376-4677. A

**Stove**, gas, Wedgewood, 27" oven & broiler, 4 burner, \$60. 321-2848. A

**Golf clubs**, bag & cart, 4 woods, 8 irons, \$75. 869-7760. A

**Stove**, O'Keefe & Merritt, 2 ovens, 2 broilers, 5 burners, coppertone, 1 yr. old, \$200. 598-3552. A

**Ping Pong Table**, alum. folding legs, \$15. 371-5261. A

**House**, 4-bdrm., den, 2 baths, on 3 lots, new paint in & out, h/wood floors, \$27,500. 379-7660. A

**Tape Recorder**, stereo, Pentron PR-65, \$50. 679-2635. A

**Porsche**, 1959 convt., recent eng. o/haul, Michelin radial tires, \$1,575. 377-8731. A

**Refrigerator**, Kelvinator, 14 cu. ft., frost-free, \$125. 869-9866. A

## Wanted to Buy

**Station Wagon**, good running, late model in good condition. 326-0114. B

**Model Train Equipment**, American Flyer, S-gauge. 286-3572. A

**Exercycle**, or similar device, not motorized w/adjustable tension & instruction book. 675-2005. B

**Bicycle** built for two. 596-9748. B

**World Books**, set. 670-5990. B

**Property** in Palos Verdes area, either improved lot, min. 1/4 acre or house less than 2 yrs. old, min. 2,500 sq. ft., 4-bdrm. & family rm. 596-0521. B

**Volkswagen** parts useable for dune buggy, 371-7382. B

**Mangle**, without heat. 323-8213. B

## Rentals Offered

**House**, 2-bdrm., unfurn., fenced yard, patio, \$140. 320-2002. E

**Apt**, 1-bdrm., unfurn., 2 miles from Norair, gar., \$90. 674-0755. E

**Cottage**, 2-bdrm., redecorated inside & out, \$130 mo. unfurn., \$155 mo. furn. 823-1910. E

**Apt**, unfurn., 2-bdrm., enc. gar., adults only, no pets, \$125 mo. 676-1985. E

**Home**, 3-bdrm., 2 baths, dble. gar., lge. backyard, covered patio, fireplace, d/washer, will lease, \$185 mo. 714-828-2505. E

**Apt**, 1-bdrm., near King Harbor, cpts., dps., bltins, gar. w/storage cabinets, \$120. 376-9608. E

**House**, 3-bdrm., 2 baths, enc. patio, cpts., dps., fenced yd., avail. Feb. 19, \$200. 377-6458. E

**Apt**, 1-bdrm., cpts., dps., bltins, stove, refrig., air cond., 20 min. to Norair, \$100 mo. 391-7781. E

## Rentals Offered

**Duplex**, unfurn., 2-bdrm., refrig., stove, gar., adults, no pets, avail. Feb. 15, \$125 mo. 673-1249. E

**Apt**, 1-bdrm., bltins, all elec., closed gar., 10 min. to Nortronics PV, 20 min. to Norair, \$120 furn.; \$105 unfurn. 375-2091, 375-9397. E

**House**, 2-bdrm., unfurn., utilities pd., 1 block from Norair, \$130. 676-5291. E

**Apt**, 1-bdrm., furn., bltins, 5 min. from Norair, \$125 mo. 421-5233. E

## Rentals Wanted

**Apt**, 2-bdrm., unfurn., from \$90 to \$120, must be near Northrop, on April 1, have 3 children. 845-1651. F

**Bachelor** sleeping room w/bath privileges. Box 204. F

## Child Care Wanted

**Child Care**, 18 mos. & up. 679-2851. G

**Girl**, 15 yrs. old, desires babysitting assignments, Westchester, Inglewood area, any evening or weekend, 75¢ hr. 673-4836. G

## Personals

**Sincere** thanks to my friends at Nortronics Hawthorne for their thoughtfulness & generosity during the recent passing of my mother & illness of my sister. JOHN R. DIXON. L

**Will** do ironing in my home. 672-6060. L

**Will** board a horse free for several mos., plenty of green grass, Malibu Canyon area near the tunnel. 671-8401. L

**My sincere** thanks to Pat's many sincere & dear friends at Northrop in the recent loss of my husband, your kindness & love will always be remembered by myself & family. MRS. PAT DOHERTY. L

**I wish** to express my thanks for the lovely flowers & expressions of sympathy during my recent loss. BARRIE J. YOUNG. L

**Toys** wanted to be given to orphans & children who have none, will do repair work. 674-2074. L

## Rides and Riders

### Rides Wanted

**7 a.m. — 3:42 p.m.**

**West San Fernando Valley**. John Rizzotti, Norair, ext. 2033.

### 8 a.m. — 4:45 p.m.

**Carriagedale Dr. off Harbor Fwy. at Sepulveda & Figueroa**, Wilmington. Christine Remedios, Norair, ext. 2965, 835-2272.

**Manchester Ave. & Crenshaw Blvd.**, Inglewood. Can pick up anywhere from 82nd St. along Crenshaw Blvd. Charlotte Woolums, Norair, ext. 1515-1564, 753-7484.

**East Whittier or vicinity**, Whittier. C. Rosenkranz, Norair, ext. 1022, 696-3467.

### Rides Offered

### 8 a.m. — 4:45 p.m.

**East Whittier or vicinity**, Whittier. C. Rosenkranz, Norair, ext. 1022, 696-3467.

## For Sale or Trade

**Corner Lot**, ocean view, underground utilities, \$1,000 dn., balance at 6%, \$22,900 or trade for income property in South Bay area. 377-0146. M

**Boat**, 12' alum. cartop-type, 6 h.p. Mercury motor w/spare motor for parts, \$150 or trade for boat trailer suitable for 18' o/board runabout. 714-539-4781. M

**Projector**, Ampro 16mm sound/silent, \$150 or consider trade part value for .22 or .38 pistol, .22 cal rifle or 16-20 ga. shotgun. 941-1865. M

**Motorcycle**, Yamaha sport 1966, 246 cc, \$550 or trade for used Volkswagen. 375-0240. M

**Chevrolet**, 1957 h/top, \$300 or trade for dune buggy in fair condition. 837-0994. M

**Volkswagen**, 1967 Squareback sedan, 15,000 miles, \$2,300 or \$600 & take over \$65 mo. pymts. or consider older VW in trade. 714-523-2495. M

# African Country Orders Page Troposcatter System

The West African Republic of Gabon has become the latest developing nation to contract for a Northrop communications system.

Page Communications Engineers, the Washington-based subsidiary of Northrop Corporation, announced that its Italian subsidiary, Page Europa of Rome, signed a \$1.5 million contract with the government of Gabon for a troposcatter radio system.

In the troposcatter technique, radio signals are bounced off the troposphere six miles above the earth. The Gabon system, expected to be operational by December 1969, will link the capital of Libreville with the towns of Lambaré and Mouila.

Under a separate contract now being negotiated, it is expected that the system will be extended into the Congo, to the cities of Dolisie and Brazzaville.

The Gabon project is being financed by the European Development Fund. Radio troposcatter equipment manufactured by the West German firm of AEG-Telefunken will be used.

Northrop's Page Communications Engineers has performed key communications tasks for a number of countries around the world. For the Inter-American Development Bank, it conducted a 10-nation study of South American communications needs.



**BLUE RIBBON POSTER**—Orange County Junior Achiever Herb Rabbin has won first place in competition with 17 other JA companies in the Point of Purchase Chart contest. He is a member of the ORCO Company, sponsored by Nortronics Anaheim. The winning chart, done entirely free-hand, illustrates the tool rack manufactured and sold by the Orange County achievers.



## In and Around Ventura

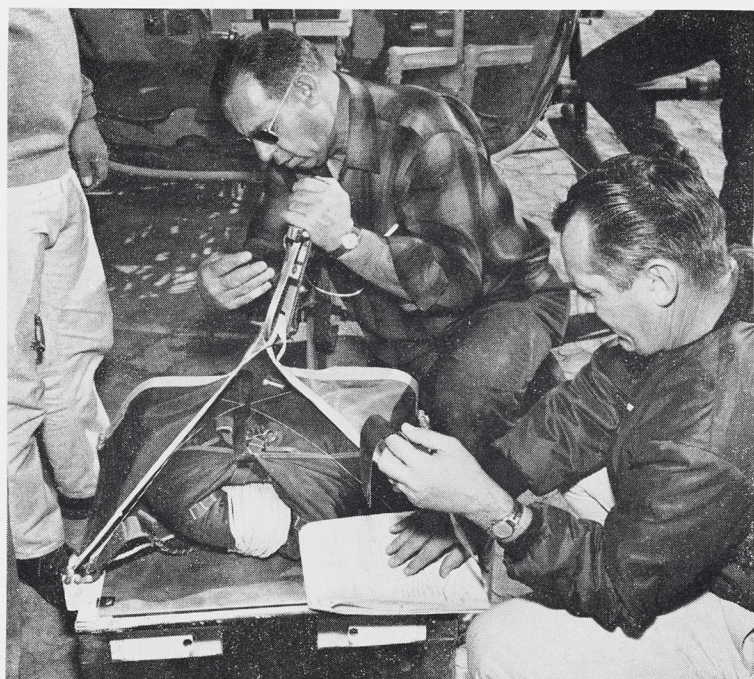


"ERRORS AND EFFORTS" is the topic of George Grogan, Northrop Ventura's vice president of Engineering, as he talks with a group of Engineering Building secretaries. The women,

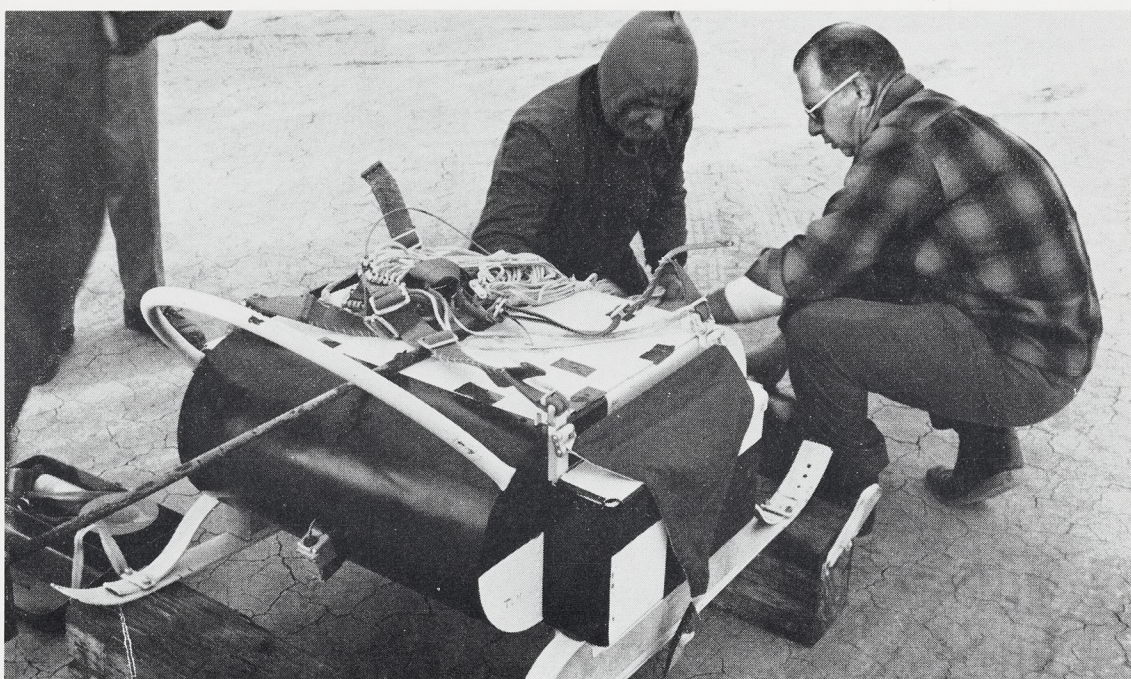
according to Edith Dean, Mr. Grogan's secretary, meet at 1:30 p.m. on the third Wednesday of each month. Speakers are chosen from each department and program at Ventura.



**HYDRAULICS AND PNEUMATICS**—Northrop Ventura employees listen to one of a five-part series of lectures on Industrial Hydraulics and Pneumatics. The course, sponsored by Professional Development and Training, was held from January 16 through 30. The one-hour programs were presented in the cafeteria.



**DATA EVALUATION**—Parawing Program officials examine a packed Parawing before hauling it aloft from beneath a helicopter, to be dropped onto the Mojave Desert at El Mirage. Another test series is being planned, to be held at El Centro next month.



**TEST VEHICLE**—Officials of Northrop Ventura's Parawing Program examine instruments on a test vehicle, following a successful drop test of a small-scale Parawing at El Mirage. A

two-week test program was held there successfully this month. The feasibility of building larger steerable Parawings is being studied under a contract to NASA.



**AMPLS AT WORK**—Lew Fisher (right), supervisor of Configuration Management, hands an automated drawing listing to Gordon Gibson. At left is Ted Randolph of Management Systems and Organization. Behind the men is a work package file, which contains all drawings, engineering changes, and master files of engineering data. This is part of the new Automated Master Parts Listing System (AMPLS).



**AN ERROR REPORT**—Studying an automated error report, part of the AMPLS system, are (from left) Bruce Haskell, master parts lister; Jean Richardson, technical parts lister; and Ron Gilbert, technical parts lister. Not shown, but instrumental to the program, is Paul Ewing, technical representative between Northrop Ventura Configuration Management and Norair.



# NORTHROP NEWS

NORTHROP VENTURA

Published biweekly by Northrop Corporation, Beverly Hills, California

Vol. 26, No. 3

February 14, 1968

## Tough Jobs Described as Key to Future

In his first message of 1968 to Northrop employees, Northrop President Thomas V. Jones has described the company's present projects as "opportunities to expand the company's capabilities for the future."

"Tackling the big and tough requirements of our customers always has paid off for Northrop in new opportunities," Mr. Jones said in his address at the February meeting of the Norair Management Club.

"We were chosen for our present major projects because of our customers' confidence that we would again prove to be a hard-charging outfit that would deliver the kind of new and superior performance that is necessary for new and superior products."

"We have always done our best when we reached for something we have never done before, and we have always stretched our capabilities," he continued. "I would be worried if today's challenges were not tough."

Mr. Jones cited the performance by the Nortronics Division in developing and producing the navigation system for the Lockheed-Air Force SR-71. The task involved "staggering requirements." At first, there were many who believed it couldn't be done. But it was developed, produced and delivered to the Air Force, and was done so successfully that the company won the maximum

(See MR. JONES, page 4)

## Venturans Enroll In USC Course On Management

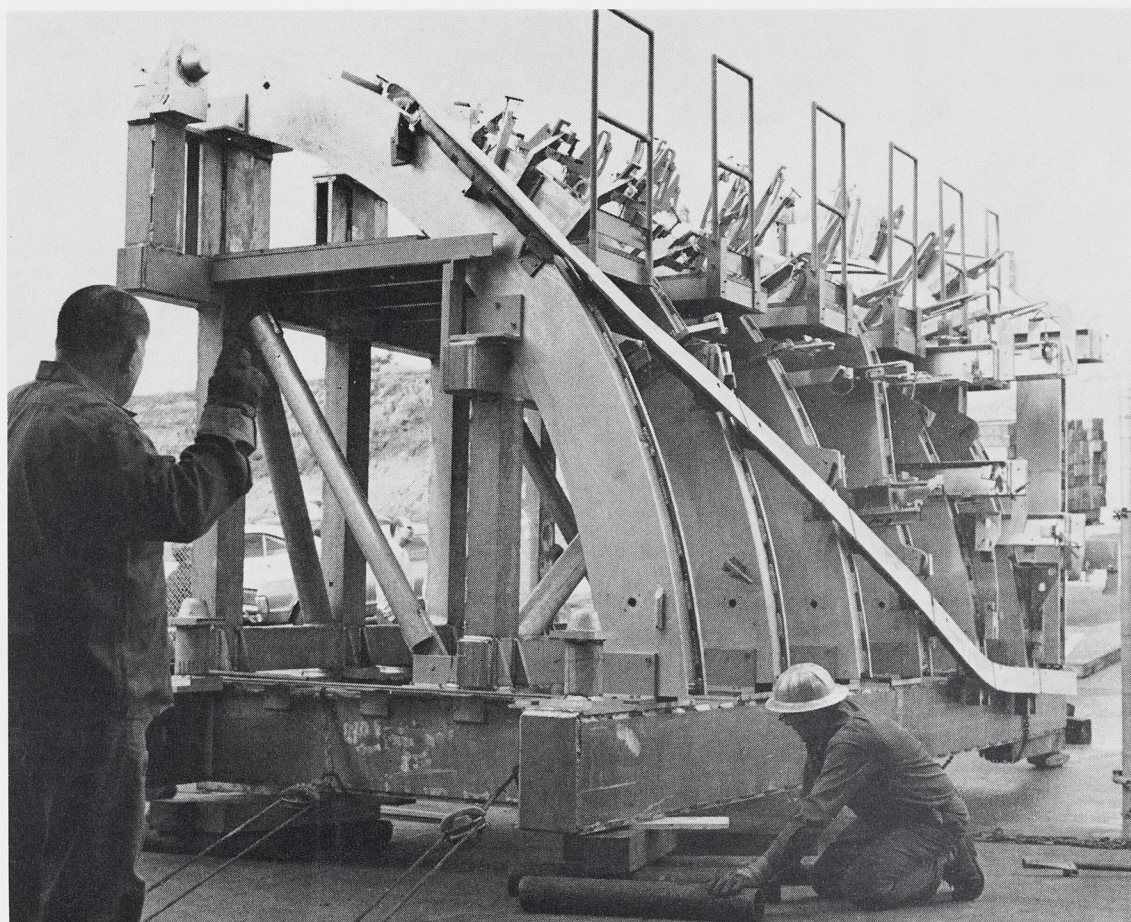
Ten Northrop Ventura men are participating in a 12-week course in management, sponsored by Ventura Industrial Relations and conducted by the University of Southern California.

The class, titled "Administrative Leadership — Theory and Practice," meets from 5:45 to 9 p.m. each Monday at Du Par's Restaurant, Thousand Oaks. It began on February 5 and will continue through March 22.

The Ventura participants are Don Archer, Al Binsacca, Carl Emerich, William Glass, Vincent Gurley, Walter Mann, Steve Saputo, Doug Sessions, Denny Sherwin and William Spencer.

The course, as described in a USC outline, "integrates a basic approach of participative management with fresh insights of leaders in this field. It emphasizes application and problem-solving, and is valuable to both managers and potential managers."

Among the lecture titles are "Planning and Decision-Making," "The Human Element and Motivation" and "Managerial Communications."



FOR THE 747—Ventura employees guide a huge jig section for the Boeing 747 into the Manufacturing Building at Ventura. The jig is for the lower body section at the front of the

wing. A similar tool arrived last week for the fuselage section behind the wings. Ventura is manufacturing fiberglass wing fairings for the aircraft.

## Wing Fairing Production Begins on Schedule at NV

Production of the 80-foot long fiberglass wing fairings for the Boeing 747 jetliner is well under way at Northrop Ventura, and shipments of a number of related 747 items to Boeing have already been made.

To date, 27 wing fairing panels have been built and are awaiting final trimming and drilling. Body fittings, which will connect the fairing frames to the fuselage of the giant airliner, have been completed and were sent to Boeing last month.

Two huge jigs which were built at Lockheed have arrived at Ventura and will be used for the fitting of the wing fairing panels.

## Safety Glasses To Be Required

Beginning Friday, safety glasses will be required at all times in certain production, laboratory and test areas at Northrop Ventura, George Johnson, chairman of the General Safety Committee, has announced.

Signs will be posted at all entrances to manufacturing areas, cautioning personnel not to enter without proper eye protection, Mr. Johnson said. Lists of areas where safety glasses will be required also will be posted.

Visitors and employees not assigned to eye protection areas, but who are required to enter such areas, may obtain safety glasses from the Medical Services area, near the lobby entrance to the Manufacturing Building, or the Shipping Guard office behind the Manufacturing Building.

One jig is for the lower body section at the front of the wings. The other is for the fuselage section immediately behind the wings.

"We expect to start sending the completed, fitted fairings to Boeing in April and May," Product Supervisor Wayne Beeman said.

"As soon as we receive the frames from Norair, we'll fit them onto the jigs, and then install the fairings over them."

After all the parts are carefully and individually fitted and drilled in the jigs, they'll be disassembled and sent to Boeing in kit form.

"This is what Boeing calls a 'fitted parts' situation," Mr. Beeman said. "Everything will have been prefitted here."

Eventually, the Ventura 747 operation will produce eight and one-half complete sets of wing fairings each month. Since each 747 will have 107 separate panels, that figure represents a total of 910 panels every month.

Each wing fairing is a fiberglass "sandwich," with a nylon honeycomb material bonded and laminated between two fiberglass panels. Each piece of honeycomb is bent to the desired shape over a metal pattern and is heated in large ovens at temperatures of approximately 500 degrees.

After only about one minute in the oven, the honeycomb has assumed its new shape without any loss of strength. It then is ready to be molded into the fiberglass sheets.

The first test of the 747 jetliner is scheduled for this October, with deliveries to airlines to begin late in 1969.

## Sixteen Receive Service Awards

Sixteen Northrop Ventura employees became eligible for service pins this month, led by two men who reached the 20-year mark.

John Liedl joined Northrop Ventura on February 9, 1948 as an experimental mechanic. Today, he is a tool and die maker.

Sidney Madsen joined the firm on February 17, 1948. He is a ground support equipment assembler.

Ten-year pins were awarded to Harold Baptist, Gerald Brower, Warton Gulbenkian and Harold Schuman.

Ten persons earned their five-year service pins. They were

(See SERVICE PINS, page 4)

## Management Changes Told By Gasich

Rapidly changing techniques of management, and predictions of how the management function will have altered by the 1980's, were explained to Northrop Ventura Management Club members last week.

Welko E. Gasich, vice president and Ventura general manager, addressed the club meeting at Los Robles Inn, Thousand Oaks.

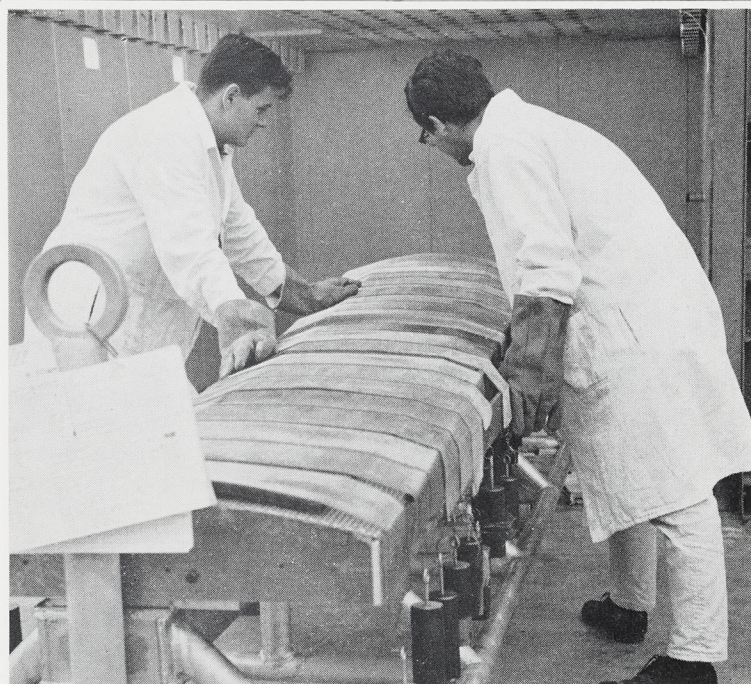
He sketched the historical development of management theory, the factors which motivate people to better performance, and the impact upon management to be expected from revolutionary advances in applying analytical techniques and in information handling and data processing.

The functions of management, Mr. Gasich said, are planning, organizing, integrating effort and measuring results in order to carry out responsibilities to the customer, the investor, the employee, and society in general. It has been only in relatively recent times, however, that management has realized the full scope of its responsibilities, he said. The general manager sketched the history of management transition, from feudal days when management was entirely in the hands of land owners, through the financiers of the 17th and 18th centuries, to the professional manager of the late 19th and early 20th centuries.

He predicted that, in the final one-third of this century and into the 21st century, management will fall into the hands of experts, combining the sciences of sociology, economics and technology.

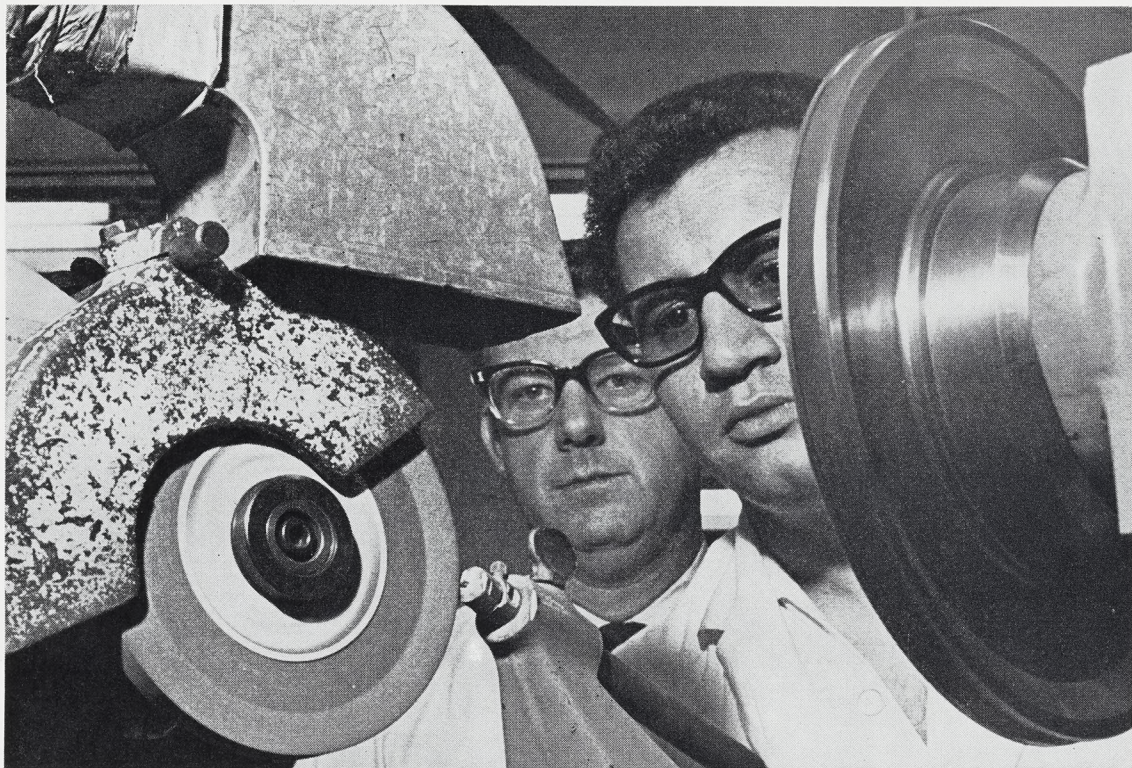
As management develops a broader view and more precise information upon which to make decisions, Mr. Gasich emphasized, the manager must not lose sight

(See MR. GASICH, page 4)



INTO THE OVEN—Plastics workers at Northrop Ventura wheel a piece of honeycomb material into an oven, where it is heated into the desired shape. The honeycomb is kept in place with weights until it assumes its new shape.





**CRAFTSMEN AT WORK**—As Bud McClanahan looks on, Ramon Baez uses a diamond-tipped dressing tool to put final contours and surfaces on a carbide grinding wheel. Norair's

Standard Tool Maintenance is Northrop's major user of diamond-augmented tools, although all Northrop divisions utilize them in some form, largely in making tools.



**FINISHING TOUCHES**—Norair's Les Zimmerman uses a diamond-impregnated wheel to finish the carbide cutting surfaces on a five-inch face mill blade that will be used to cut flat surfaces on steel parts.

## Industrial Diamonds—A Vital 'Ugly Duckling'

Diamonds are the mineral with a dual personality.

Perfect diamonds are man's most valued gem, a "girl's best friend," and carbon in its purest form. However, only one of every five diamonds mined has the color or brilliance to become a gem.

The remainder, the ugly-duckling cousins, are relegated to another status, another personality. They become industrial diamonds, or "borts," the hardest substance known to man.

Northrop Corporation utilizes industrial diamonds throughout its operations.

In drilling, grinding, cutting, trimming and dressing procedures, industrial diamonds used in conjunction with wheels, drills, saws and dressers are valued assets. Most are tools used primarily in making other tools, especially those fabricated of extremely hard metals, such as carbide, that are employed in day-to-day production operations.

In this environment, diamond-

tipped or diamond-impregnated tools know no peers.

Coring drills and abrasive wheel dressers are tipped with industrial diamonds that range in size from a half-carat up to three carats, dependent upon their use and the resistance of the materials they are used to fashion. In others, diamond chips are bonded in metal to augment the abrasive action.

Diamond particles or grit is also bonded into metal in varying amounts that go into making wheels and even saw blades for a high degree of polish or finish in cutting, grinding, dressing, and sharpening.

Northrop's largest user of diamond-augmented tools is Norair's Standard Tool Maintenance, the organization that makes and maintains tools of regular or exotic materials.

(At Northrop Nortronics and Northrop Ventura comparable organizations utilize similar equipment for the same purposes, but on a smaller scale.)

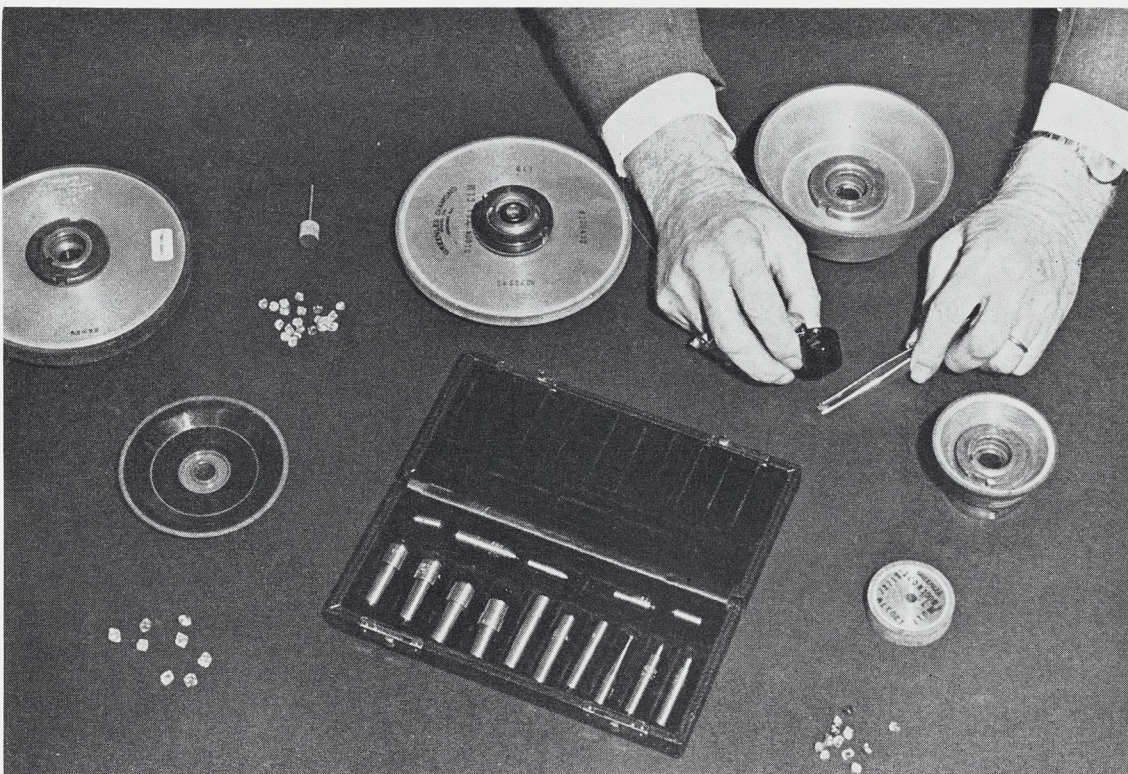
Elsewhere at Norair, industrial diamonds are employed by the Machine Shop on cylindrical, surface and thread grinders, by Tool Fabrication for certain dressing routines, by Manufacturing Research and Development and Engineering Laboratories in specialized work with materials for today's and tomorrow's systems and aircraft.

Less intriguing is the use of diamond-impregnated saw blades and diamond-tipped coring units to cut and drill concrete by Maintenance personnel.

Northrop acquires tools utilizing industrial diamonds direct from a vendor. It also returns these tools to the vendor for repair or rework.

For example, diamond-tipped dressers that become dulled in normal use are returned to have the diamond reset. This simple, and inexpensive, operation involves turning the diamond so that a new cutting surface is exposed. Thus, one tool can be used for extended periods of time by merely resetting the tip.

Gem diamonds are about nine times as expensive as industrial diamonds.



**WORKING DIAMONDS**—Unmounted industrial diamonds are displayed with an assortment of tools containing diamond-tipped or diamond-impregnated surfaces typical of those in daily use at Northrop. Diamonds, the hardest sub-

stance known to man, are used primarily in making tools of hard materials, such as carbide, that are employed in cutting, shaping or forming the so-called exotic metals of many types.

## Retirees Install Officers, Plan Next Meeting

Northrop's Retirement Club last month seated a new slate of officers, headed by President Jeannette Kaupp, to serve for 1968.

Others installed included George Sanborn, vice president; Margaret Bruchez, secretary-treasurer and James Curran, sergeant-at-arms.

Appointed to head key committees were Alvera Hayes, historian; Leo and Anna Day, welcoming; Marie Beyer, clubhouse; Ralph Garcia, trips; Ida Pantier, sunshine; Dan Whelan, reunion and entertainment; and Walter Brophy, newsletter.

The Retirement Club meets February 21 at NRC Clubhouse, Hawthorne, with business to get under way at 1 p.m. Included on the agenda are games, refreshments, door prizes and a special color slide presentation of Alaska to be shown by Cyrus McClean.

## Morse Code, Radio Theory Class Scheduled

The first in a series of Morse code classes, conducted by the Northrop Radio Club, will begin at 7 p.m. Monday in the NRC Clubhouse in Hawthorne.

Curriculum will include Morse code, basic radio theory and rules and regulations of obtaining amateur licenses.

Enrollment is open to all Northrop employees and their spouses, Commissioner Bill Anderson said.

"We want to emphasize that the course is open to women, as well as men," Mr. Anderson said, "and that there are many people in addition to amateur operators who might find it valuable. For example, scout leaders or pilots might find knowledge of the Morse code useful."

Additional information may be obtained by contacting Mr. Anderson at Norair ext. 1933 or by attending the opening class session. Class materials will be provided by the club.

## Tax Counsel Urges Early Processing of State Returns

Increased California income taxes have prompted Howard Rath, director of Northrop's Tax Administration, to advise employees to prepare their 1967 California returns as soon as possible.

"The state income tax has been increased very substantially," Mr. Rath said, "and, as a result, the average taxpayer may be in for an unpleasant surprise when he computes his 1967 California income tax. In many cases, the

1967 tax will be more than double the 1966 tax."

Although April 15 is the deadline for filing the California tax return, Mr. Rath advises all employees to compute their tax liability now in order to plan to have funds available to pay the tax.

## Secretaries Plan Spring Seminar

Northrop Corporation secretaries have been invited to take part in the annual Spring Seminar of the Stellar Chapter, National Secretaries Association on March 9.

This event, entitled "GO OR NO GO—A Space Age Challenge to You" will be held at 8:30 a.m. in the City of Commerce. It will include workshop speakers and a tour of the Apollo Command and Service Module facilities at North American Rockwell.

Contact Doris Robinson at ext. 1067, Norair, for details.

## Blood Drive Successful

Red Cross Blood Donor Day at Nortronics Anaheim was an overwhelming success as 171 pints of blood were collected from employees last month.

"In fact," says Harry Belcher, of Employee Services, "we had to turn away some donors because we just couldn't receive the blood any faster." More than 200 prospective contributors filled in donor cards, but the six-bed donor station could only accommodate 171 in the half-day session.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

For Sale
Roller Skates, girl's, metal carrying case, size 7, \$5. 329-6728. A
Scope, sig. gen., VTVM, fact. wired Heathkit, 3" scope, Knight r.f. sig. gen., Simpson v.t. multimeter, \$100. 545-5023. A
Breakfast Nook, custom seat, L-shaped, seats 4 or 5, \$50. 328-1520. A
Suspension Stabilizers, front & rear for Volkswagen sedan, \$10. 375-8536. A
Camera, 35mm Bolexy, \$15. 714-539-2098. A
Mustang, 1965, 289-225 h.p., a/c, p/s, p/b, console, many extras, \$1,295. 323-4257. A
Bicycle, Schwinn Varsity, 27" 10-spd. Derailleur, \$25. 325-2292. A
Bedroom Furniture, painted, 2 3-drawer dressers, student kneehole desk, step bookcase, \$18. 326-5731. A
Generator, 115 V, 60 Hz, 400 W, or 12V DC for Honda, \$150. 714-597-2260, 359-2267. A
Refrigerator, \$15. Box 301. A
TV, maple cabinet, color, 23", \$325. 644-4529. A
Range, O'Keefe & Merritt, gas, 42" w/top griddle, \$30. 675-3407. A
Laundry Sink, cast iron w/porcelain finish, wall bracket inc., \$10. 323-8797. A
Ford, 1961 500 Fairlane, 4-dr., V-8, air cond., r/h, \$375. 329-0086. A
Floor Scrubber-Waxer, Sears, brushes, buffing pads, cpt. cleaning attach., \$30. 833-5594. A
Ford, 1960, 2-dr., 6-cyl., std. shift, new paint & trans., \$300. 634-4848. A
Pups, German shepherd, pure black females, champ. stock, AKC reg., shots & wormed, \$75 ea. 675-6283. A
MG Midget, 1964, wire wheels, radio, \$1,050. 370-2876. A
Volkswagen, 1964, \$1,250. 422-4942. A
Station Wagon, 1961 Comet, auto. trans., r/h, recent o/haul, \$695. 676-8842. A
Volkswagen, 1959, w/'65 rebilt. eng., body damage, \$350. 676-6169. A
Chevrolet, 1959 2 dr., 348 cu. in., auto. trans., r/h, p/s, p/b, \$275. 676-9736. A
Apts, 8, 2-4 unit bldgs., all 2-bdrm., \$76,000. 837-0989. A
Volvo, 1962, P-1800 sport cpe., o/drive, AM-FM radio, new paint & tires, \$1,795. 393-1453. A
Engine Lathe, Logan, 9" w/tools, \$300. 679-7689. A
Cemetery Lot, Parkview plot, Inglewood Cemetery, \$550. 329-6174. A
House, 3-bdrm., 2½ baths, 5¼% loan, \$55,500. 375-0867. A
Volkswagen, 1963 sunroof, AM-FM radio, many extras, \$950. 327-0410. A
Jig Saw, Craftsman bench model w/¼ h.p. motor, \$28. 377-4694. A
Chevrolet, 1966 Chevelle Malibu sport cpe., 283 cu. in., auto., p/s, r/h, \$2,175. 329-6717. A
Vacuum Cleaner, Electrolux, \$25. 677-9438. A
Volkswagen, 1963, r/h, \$900. 323-7119. A
T-Bird, 1959, full power, air cond., \$595. 672-8060. A
Camera, 8mm movie, Bolex f:1.9 & telephoto lens & filters, case, \$30. 675-1378. A
Falcon, 1962 Futura, 4-spd. trans., 170 cu. in. 6-cyl., eng. rebilt., many extras, \$700. 714-521-1516. A
Dodge, 1967 Dart, p/s, 2-dr. h/top, \$2,400. 752-4576. A
Dishwasher, General Electric, portable, \$50. 679-1924. A
Rambler, 1962 2-dr., 6-cyl., stick shift, \$400. 662-1817. A
Chevrolet, 1959 2-dr. sedan, rebilt. motor, new tires, \$250. 532-6687. A
Chevrolet, 1960 Impala, 348 eng., \$450. 679-7840. A
Ford, 1961, V-8, 2-dr., auto., r/h, \$425. 328-3306. A
Triumph Cub, 200 cc., rebilt, \$250. 363-3843. A
China, Royal M, fragrant pattern, service for 10, many extras, \$35. 679-6982. A
Shelby, 1967 GT500, p/s, p/b, auto., 428 cu. in. LeMans eng., \$4,300. 675-1365. A
Motorcycle, 1964 Suzuki, 250 cc, \$275. 326-7528. A
Skis, Head Standard, 6'3", Marker toes, \$65. 327-1309. A
Utility Trailer, 4' by 8', \$45. 714-528-7086, 714-528-7450. A
Drum Set, 4-pc. Gretsch, Zildjian cymbals w/hi-hat stand, \$300. 676-3087. A
Bedroom Set, 5-pc., maple, \$110. 324-0798. A
Station Wagon, 1963 Rambler American, \$550. 757-7283. A
Wedding Dress, size 10, full length w/overskirt, \$30. 754-5358. A

For Sale
Refrigerator, white, Hotpoint, \$25. 805-395-3834. A
Home, 3-bdrm., 1¾ baths, cpts., dps., pool, h/wood floors, 5¾% loan, \$29,500. 325-9328. A
Drag Strip, Eldon, 2 dragsters, elec. timer, power pack & controls, 10' long, \$20. 371-8695. A
Quilts, hand-made, Dacron, single or dble. bed size, various designs & colors, \$40 & up. 676-7006. A
Corvette, 1965 Fastback, AM-FM, 4-spd., 300 h.p., \$2,990. 370-4316. A
Tape Recorder, Tandberg, model 64 & Tandberg TM3 microphone, \$395. 459-2281. A
Carpeting, 40 yds. Mohawk Herculon, beige, never used, \$200. 329-7777. A
Kittens, sealpoint Siamese, 9 wks. old, 1 male, 2 females, \$20. 371-8330. A
Refrigerator, Westinghouse, crossstop freezer, white, 11 cu. ft., \$125. 714-534-0059. A
Dodge, 1964 Dart convt., r/h, \$950. 714-595-3429. A
Cemetery Lot, 2, Inglewood Park Cemetery, Avalon tract, \$400 ea. Box 302. A
Relax-A-Cizer, used twice, take over \$19.90 mo. pymts., \$160 bal. 675-8313. A
Lot, 90 x 190 deep, at Apple Valley, \$750. 714-535-1694. A
House, 3-bdrm., 2 baths, fam. rm., 15'x35' swim pool, 1,600 sq. ft., cpts., dps., \$23,500. 714-525-3389. A
Renault 4CV, 1959, '62 Dauphine eng., \$75. 328-9064. A
Ski Boat, 15' Fleetcraft, 35 h.p. Evinrude, trailer, \$350. 869-6823. A
Yamaha 80, for dirt or street, assorted parts, \$150. 676-0049. A
Acreage, 5 acres in Antelope Valley, \$35 down & \$35 mo., inc. 6% interest, \$3,500. 378-1026. A
Camera, Nescon, 35mm, flash cube attach., \$25. 326-1876. A
Trailer, ¼-ton, spare tire, \$75. 377-3642. A
Wing Chair, 2 oversized, custom-made, need reupholstering, \$60. 374-2756. A
Drums, St. George snare, bass, 2 tom toms, hi-hat & ride cymbals, \$125. 633-6106. A
Furntable, Music master, w/audio Empire arm, \$20. 277-0190. A
Typewriter, Remington Quiet-Writer, deluxe portable w/case, \$45. 714-635-1686. A
Gun, .357 mag. Smith & Weston, holster & shells, \$100. 714-893-2071. A
Cad-Allard, K-3, \$1,200. 398-5019. A
Honda, 160 cc, 1965, \$325. Box 303. A
Go Kart, live axle, Mack 7, Air Hart brake, \$175. 323-3051. A
Desk, executive-type, walnut finish, 32"x60", \$75. 372-9845. A
Projector, Eastman Carousel 800, 35mm, extra projection lamp, \$75. 788-9709. A
Communications Receiver, National HRO-60, complete w/coils A, B, C, D & AC, loudspeaker, other access., \$200. 363-0185. A
Mercury Comet, 1961 4-dr. Deluxe, \$495. 753-7484. A
Camera, auto. Westagon f2x50mm, \$30. 377-4019. A
Home, 3-bdrm., 2 baths, heated pool, small equity, \$35,450. 431-0250. A
Collie, black female, 2 yrs. old, AKC reg., w/dog house, \$25. 675-9446. A
Jumper Swing, 3 mo. to 18 mo., \$4. 755-7166. A
Toaster, Dormeyer, \$4.50. 378-1863. A
Bicycle, boy's 20" Huffy, new tire, training whis., \$18. 714-673-0244. A
Stereo, solid state Magnavox Castalla, AM-FM, phono, new, at factory, \$250. 672-7424. A
House, 2-story, 4-bdrm., 3 baths, fireplace, cpts., sundeck, patio, block wall fence, 2-car gar., \$46,500. 675-7581. A
Van, 1964 Chevrolet, auto. shift, 6 cyl. eng., new tires, \$1,000. 645-7484. A
Motorcycle, 1966 Jawa, model 361, 350 cc, extra chrome, \$350. 756-4837. A
Station Wagon, 1957 Ford, auto., \$150. 327-5747. A
Air Conditioner, 14,000 btu, Sears Coldspot, \$175. 371-4083. A
MG, 1948 TC, 19" wheels, right-hand drive, \$1,195. 805-944-2678. A
Piano, baby grand, Emerson, mahogany finish, \$625. 375-8778. A
Trail Bike, 1965 Bridgestone 90, \$250. 323-9598. A
Nash, 1960 2-dr. American, r/h, 6-cyl., st'd. shift, \$100. 677-3920. A
Lot, ½-acre, bldg. site in Agoura, horses o.k., city water, electricity & phones, \$8,500. 783-8271. A
Station Wagon, 1958 Chevrolet, V-8, r/h, p/s, \$275. 479-5653. A
Faucet, Delta, model 200, single handle control, wall mounted type, \$9. 675-8813. A
Luggage, Val-Pak, dress size, 4 hangers, red plaid, \$10. 672-5545. A
Chevrolet, 1963 Impala, new trans., clutch, \$1,350. 671-2457. A
Falcon, 1963 Futura convt., stick shift, \$575. 329-6210. A
House, in Palmdale, 5-bdrm. & fam. rm., 1¾ baths, h/wood flrs., lge. patio in fenced back yard w/shade trees, dble. gar., 4½% loan, 62x145' corner lot, 5 min. to Norair Plant 42, \$18,500. 805-947-6754. A
Honda, 1966 Superhawk, 305 cc, many extras, \$495. 372-0313. A

For Sale
Chevrolet, 1962 convt., air cond., \$800. 545-2267. A
Camper, slide-in type, for ½-ton truck, \$40. 429-7772. A
Mustang, 1966, V-8, 3-spd., r/h, \$1,800. 375-0165. A
Twin Bed, mattress & box springs on steel frame w/rollers, \$50. 676-3050. A
Box Spring, mattress, frame, dble. size, bedspread, \$25. 474-5644. A
Volkswagen, 1964, r/h, \$825. 676-9827. A
Swing Set w/slide, \$15. 866-6615. A
Motorcycle, 1964 Harley Davidson XLCH Sportster, 66 tank & night guard, \$300 equity & take over \$50 mo. pymt., \$900 approx. bal. 370-2214. A
Income Property, 6 units, 5 min. from Northrop, 1 3-bdrm., 1 2-bdrm. houses, 2 1-bdrm. duplexes, enc. gars., \$7,000 dn., assume low interest loan, \$54,000. 679-7963. A
Casement Windows, 3, Alm., 38x48, \$15. 370-4326. A
Surfboard, w/speed skag, Wardy, \$35. 862-3095. A
Xylophone, Deagan, \$125. 329-5364. A
Suzuki, 1966, 250 cc, X-6 Hustler, \$475. 679-4120. A
Golf Clubs, 1966 Haig Ultra, D-2, stiff shaft, \$130. 830-6163. A
Acreage, near Willow Springs, 5 acres, \$30 down, \$30 mo., \$600 acre. 376-5810. A
House, 4-bdrm., 1½ baths, bltins, block wall fence, dble. attach. gar., used brick fireplace, 30 min. from Norair, assume 5¼% FHA loan, \$22,500. 714-897-9075. A
Razor, Schick, cordless rechargeable, \$25. 671-6692. A
Accordion, Lindo, 120-bass, velvet lined case, 7 keyboard switches, 2 bass switches, \$100. 670-6365. A
Stove, O'Keefe & Merritt, stainless top & griddle, grillvator broiler, \$45. 326-6214. A
Station Wagon, 1964 Impala, \$1,395. 635-3127. A
VW Engine, 1961, reconditioned w/new rings, pistons, cyls. & bearings, \$185. 756-9697. A
Pontiac, 1960 Catalina, 4-dr., auto. trans., p/s, p/b, \$385. 379-9347. A
Davenport, 7' French provincial, purple blue tweed, \$100. 328-8855. A
Station Wagon, 1961 Rambler Ambassador, V-8, factory air, p/s, p/b, \$425. 769-3345. A
Chevrolet, 1964 Impala, p/s, auto. trans., r/h, new tires, \$1,400. 679-2456. A
Honda, 1965 Scrambler, 250 cc, \$400. 672-6794. A
Dishwasher, portable, G.E. Mobilemaid, 3 yrs. old, never used, \$75. 378-0603. A
Station Wagon, 1967 Ford Country Sedan, 6-pass., 390 2V eng., a/c, p/s, p/b, auto., \$3,095. 324-2992. A
Home, 1-bdrm., knotty pine int., gas, water, elec., ½-acre view lot, in high desert area, inc. u/ground cooler-storage rm. & supply rm., \$3,000 dn., \$9,950. 370-7092. A
Cabin, Lake Elsinore, 2-room, fully furn., air conditioner, fireplace, terms if desired, \$7,500. 328-5730. A
Volkswagen, 1963, radio, 2 new spare tires, \$875. 375-5761. A
House, 2-bdrm. & den, 1½ baths, near Panorama City, \$19,950. 661-8949. A
Trailer, 1960 Kenskill, 17½', self-contained, \$975. 838-0015. A
Truck, 1962 Chevrolet, ½-ton, w/Stahl Service body, new tires, major tune-up, \$995. 564-2263. A
Aquariums, 4, filter pump & fish, \$60. 676-4273. A
Truck, 1961 Chevrolet Fleetside, short bed, r/h, camper shell, \$850. 714-523-2495. A
Falcon, 1962 Ranchero, 6-cyl., stick shift, r/h, \$695. 377-1074. A
Pool Table, 8', 4 cues, rack & balls, \$125. 676-1471. A
Acreage, 2½-acre parcel of farmland near Lancaster, \$1,500 dn. & \$50 mo. at 6% interest, \$5,500. 375-7130. A
Refrigerator, \$25. 883-9430. A
Comanche 180, 1958, Narco Mk. 12A w/V.O.A. 4 omni plus Narco omnigator MK2 & a.d.f., full gyro panel, \$9,200. 375-0615. A
Range, Gaffers and Sattler, gas, griddle, broiler, \$25. 754-7947. A
Rug, 12 x 14, rose, beige, \$75. 674-4563. A
Snowmobile, 1967 Polaris Colt 140, 15 h.p. 300 cc Hirth eng., 1½ hrs. total time, \$750; trailer, \$125. 758-9182. A
Wanted to Buy
Porsche Speedster in good condition. 477-8791. B
Auto, \$100 to \$150, in good running condition. 835-6492. B
Jeep, 4-wheel drive, in good condition. 370-7749. B
Welding Outfit, oxy/acy., complete or parts. 371-7382. B
Hi-Fi Speakers, Janzen Electrostatic & AR-IW. 478-7100. B
Panel Truck, 1935-'40 Chevy or Ford, reasonably priced, running or not. 632-2642. B
Potter's Wheel, preferably foot-powered, will take repairable to good condition. 545-6360. B
Youth Bed, complete w/rails & mattress, reasonable. 714-546-6714. B
Generating Unit, Tiny Tiger, portable, gas-powered ac-dc elec. power. 327-2621. B

Wanted to Buy
Seats, pair, for Porsche Speedster or trade for a set of reg. Porsche seats. 376-6182. B
For Trade
Station Wagon, 1964 Ford Falcon Deluxe trade for car of equal value. 329-9484. C
Poodle, white, toy, female, \$75 value, trade for power tools, furniture or surfboard. 671-8401. C
Slot Racing Cars, controllers, parts, whls., approx. \$125-\$175 value, trade for Citizen Band transceiver, Mobile preferred, of equal value. 679-6430. C
Free (To Be Given Away)
Pup, 6 mos. old, female, basset hound. 714-538-3495. D
Rabbit Pen, large. 834-0309. D
Rentals Offered
Apt, 1-bdrm., furn., all bltins, pvt. deck, lge. pool, sub parking, near Northrop, \$145. 670-6084. E
Duplex, 2-bdrm., fenced yard, 1 child o.k., \$73 mo. 370-3396. E
Cabin, Green Valley Lake, \$35 w/end; \$55 wk. 320-6341. E
Bachelor Apt, furn., upstairs, close to Norair, \$70 mo. 676-5921. E
Apt, 1-bdrm., cpts., dps., bltin range, refrig., air cond., \$110. 391-7781. E
Woman will share home & gar. w/working woman, also utility expenses, \$70 mo. 370-4045. E
Vacation Cabins, Lake Gregory & Crestline, sleeps 6, make reservations now, \$25 w/ends; \$60 wk. 391-2040. E
House, 2-bdrm., furn., Inglewood area, \$165 mo. 823-5225, 823-1910. E
Apt, 3-bdrm., 2 baths, 3 blocks from the ocean, cpts., dps., bltins, piped music, bltin vacuum, gar. w/cabinet storage, \$165. 376-9608. E
Rentals Wanted
Studio Apt, 2-bdrm., furn., cpts. & dps., bltins, gar., Inglewood-Hawthorne area, need by March 1, \$185 mo. 673-1624, 676-1286. F
Garage for storage in Wilmington, San Pedro or east Torrance area. 834-2845. F
Child Care Offered
Child Care in my home, infants, yard. 644-3817. G
Found
Jacket, men's, beige, at Personnel Activities, Nort. Hawthorne, ext. 301. K
Personals
On my retirement, please accept my sincere thanks to everyone in Orgn. 5707 who made my last working day a memorable one. I will carry to Texas with me many pleasant memories. My thanks & best wishes. (TUDIE) ROOMIES. L
My thanks for the lovely flowers & gifts from Herman's many friends. Your thoughtfulness will always be remembered. BENGTA HOOGERBRUGGE. L
I wish to thank all my friends at Norair for their thoughtfulness following my accident. ARTURO BANURA & FAMILY. L
For Sale or Trade
Boat, 16' trailer, Mark 75 o/board motor, all access., \$750 or trade for car. 679-2041. D

Rides and Riders
Rides Wanted
7 a.m.—3:42 p.m.
Crenshaw Blvd. & 235 St., Torrance, Edna Berry, Santa Fe ext. 624, 631, 326-6425.
7:30 a.m.—4:15 p.m.
Garden Grove & Westminster Area. William T. Wright, Norair ext. 1391, 714-897-8277.
Century Blvd. & La Cienega or Century Blvd. & Inglewood Ave., Inglewood. Will need transportation until March 1. Penny Prouty, Norair ext. 2015, 673-1624.
8 a.m.—4:45 p.m.
Encino, White Oak & Topham, Encino. Can meet at Fwy. & White Oak on-off ramp or in Tarzana, Encino or Reseda area. Linnell Anderson, Norair ext. 1676, 342-7565.
Rides Offered
7:30 a.m.—4:15 p.m.
Garden Grove & Westminster Area. William T. Wright, Norair ext. 1391, 714-897-8277.
8 a.m.—4:45 p.m.
Encino, White Oak & Topham, Encino. Can meet at Fwy. & White Oak on-off ramp or in Tarzana, Encino or Reseda area. Linnell Anderson, Norair ext. 1676, 342-7565.
San Pedro & Western Ave., San Pedro. Shirley Feenstra, Norair ext. 2277, 831-1745.

For Sale or Trade
Carbine, U.S. M-1 .30, \$75 or trade for Colt .45 auto. or Luger pistol. 379-3487. M
Trailer, 16', elec. brakes, \$850 or trade for pickup truck. 805-498-3403. M
Stereo Speakers, 2 lge. 2½' high Chrysler, 4 mos. old, \$175 or trade for old transportation car. 759-7233. M

Flag From F-5 Combat Mission Given to Loyola

A United States flag that went along on a combat mission aboard a Northrop F-5 tactical fighter over Vietnam now flies above the campus of Loyola University in Los Angeles.

Captain John D. Geron, AFROTC instructor at Loyola, suggested the idea to Captain Frederick L. Wells, a member of an Air Force advisory team at Bien Hoa Air Base, Vietnam.

Captain Wells flies the F-5 as an advisor with the 23rd Vietnamese Air Force Wing and took the flag along with him on a combat mission.

Upon completion of the mission, Captain Wells sent the flag to Captain Geron for presentation to the Loyola student body.



LONG MAY IT WAVE—USAF Captain Frederick L. Wells (right) and Vietnamese Air Force Lieutenants Le My (left) and N. T. Dung hold a U.S. flag they took along on a three-plane F-5 combat mission in Vietnam. The flag now flies over the campus of Loyola University, Los Angeles.



# Subcontractors Meet On MASWT Program

Thirty representatives of companies supplying materials for Northrop Ventura's Mobile Anti-Submarine Warfare Target program met at Ventura last Thursday in a special Subcontractors' Conference.

The men, representing 12 companies, were addressed by Corporate, division and military officials, on topics dealing with costs, schedule and performance.

"Northrop Ventura is prepared to help its suppliers by passing on the knowledge and information we have," David Hornung, one of the coordinators of the program, said. "The importance of cost, schedule and performance was reflected in all presentations."

Those attending were welcomed by Richard R. Nolan, senior vice president of Manufacturing and Administration, and by Gus Duke, Northrop Ventura Marine Systems program manager.

Welko E. Gasich, vice president and Ventura general manager, discussed "Organization for Success."

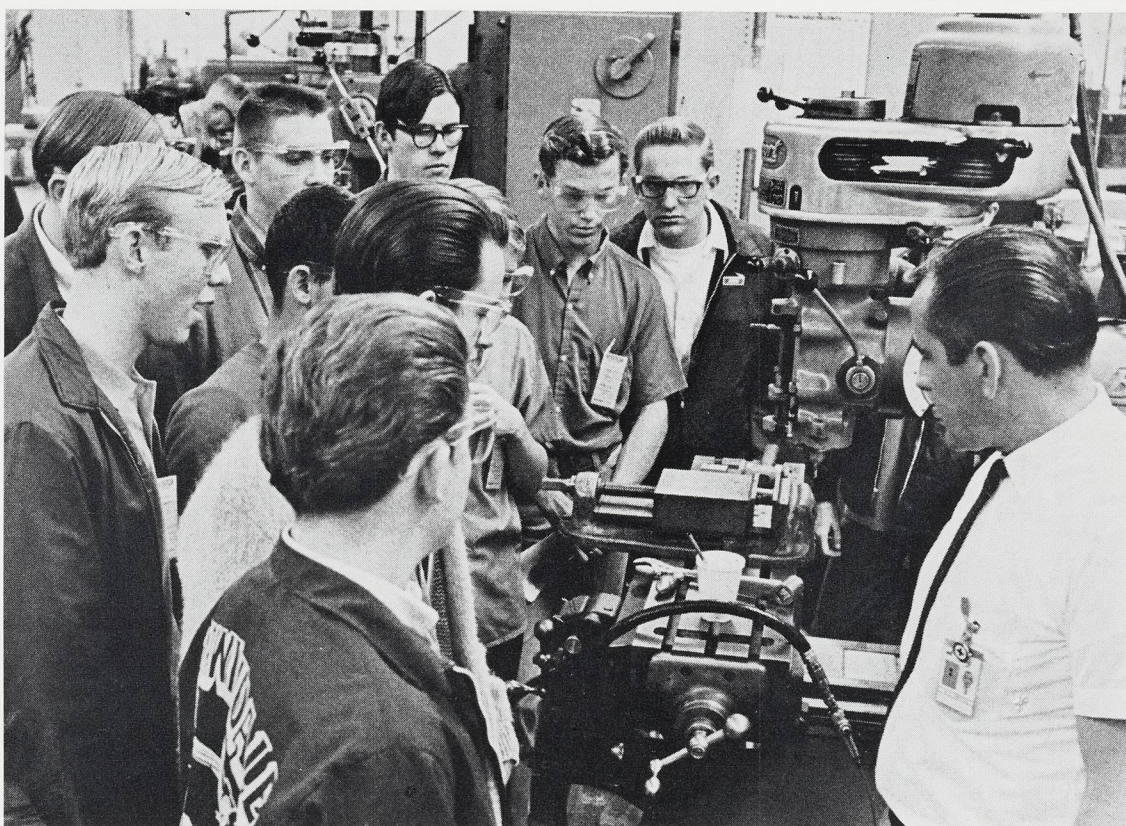
Speaking as a representative of the Navy was John Roberts, program manager for the Naval Ordnance Systems Command, whose topic was "The Navy's Operational Requirement for the Mobile Anti-Submarine Warfare Target (MASWT)."

Other speakers were M. A. Maurer, Ventura vice president and manager of Production Operations; Thomas E. Flannigan, Ventura vice president of Marketing; R. W. Young, manager of Quality Assurance; and R. A. Cunningham, T. R. Laden, F. H. Fuchs, V. V. Holmes and C. H. Swan, of the MASWT program.

The subcontractors represented were:

Consolidated Controls Corporation, The Bendix Corporation, Lear Siegler, Paragon Tool Die and Engineering, Electronic Engineering Company of California, ITT Industrial Products Division, Honeywell, Bogue Electric Manufacturing Company, Sealol, McCannalloy, The Rucker Company and Yardney Electric Corporation.

The Mark 30 underwater target is being built by Ventura for the Navy for use in anti-submarine warfare training.



IN THE MACHINE SHOP—Students from a Machine Shop class at Simi High School listen as Bob Preucel, Northrop Ventura supervisor of Machine Shop operations, explains the use of a

mill. Also touring the Machine shop recently was a class from Ventura College's evening adult school program.

## MR. GASICH

(Continued from page 1)

of the hierarchy of human needs.

These he listed in the order of importance to—and growth within—the individual:

(1). Physiological (food and shelter). (2). Safety (security against danger or threat). (3). Social (the feeling of belonging, and being respected). (4). Egoistic (self-esteem, recognition, prestige). 5. Self-actualization (creativity, personal fulfillment).

Carrying out this hierarchy of needs, Mr. Gasich pointed out that need ceases to be a motivator of people once it has been satisfied, and the principal elements in long-term job satisfaction lie in personal achievement, recognition and advancement.

As to the future, Mr. Gasich explained that electronic data processing, by providing top management with even-greater accuracy and simplicity of information, is tending to reverse the past trend of decentralizing divisions in a corporation.

"Today," he said, "data processing is used in highly structured problems. By 1980, it will be applicable to more complex situations and unstructured problems."

## SERVICE PINS

(Continued from page 1)

Mary Ann Cox, Ann Herren, Robert Jennings, Patricia LeGrand, Jean Ozga, Donald Pettit, Diana Reeves, Ivan Sneden, William Tadlock and Agnes Wood.

## MR. JONES

### 'Challenge Brings Success'

(Continued from page 1)

incentive award possible in every category.

Nortronics' superior performance was a major factor in the division winning the contract for the C-5A navigation system, a completely different system that likewise has never been done before, Mr. Jones pointed out.

"And I am sure Nortronics will repeat the process again and win an even more advanced project in this field as a result of superior performance on the C-5A development."

Another example cited was the Boeing 747 program.

"The performance on the 747 program will be no different than that which will be required on our own advanced aircraft pro-

gram. If we aren't with it, we'll be out of it," Mr. Jones said. "Our performance so far indicates we have answered squarely the question of whether or not we have what it takes to stay in the aircraft business. We are in this business not just to stay but to lead."

The performance of a Northrop subsidiary was another example used by Mr. Jones of superior performance and its reward.

A turning point which launched Page Communications on its brilliant growth was its ability to respond to an urgent request for proposal within an hour and then proceed to deliver a communications system in Vietnam a year ahead of schedule under the most adverse conditions possible.

"We have always understood that a company like ours has to regard change as not only inevitable but desirable. We don't wait for changes to happen to us. We initiate them and make them the strength of our future," he concluded.

## NV-Counseled JA Firm Seeks New 'Achievers'

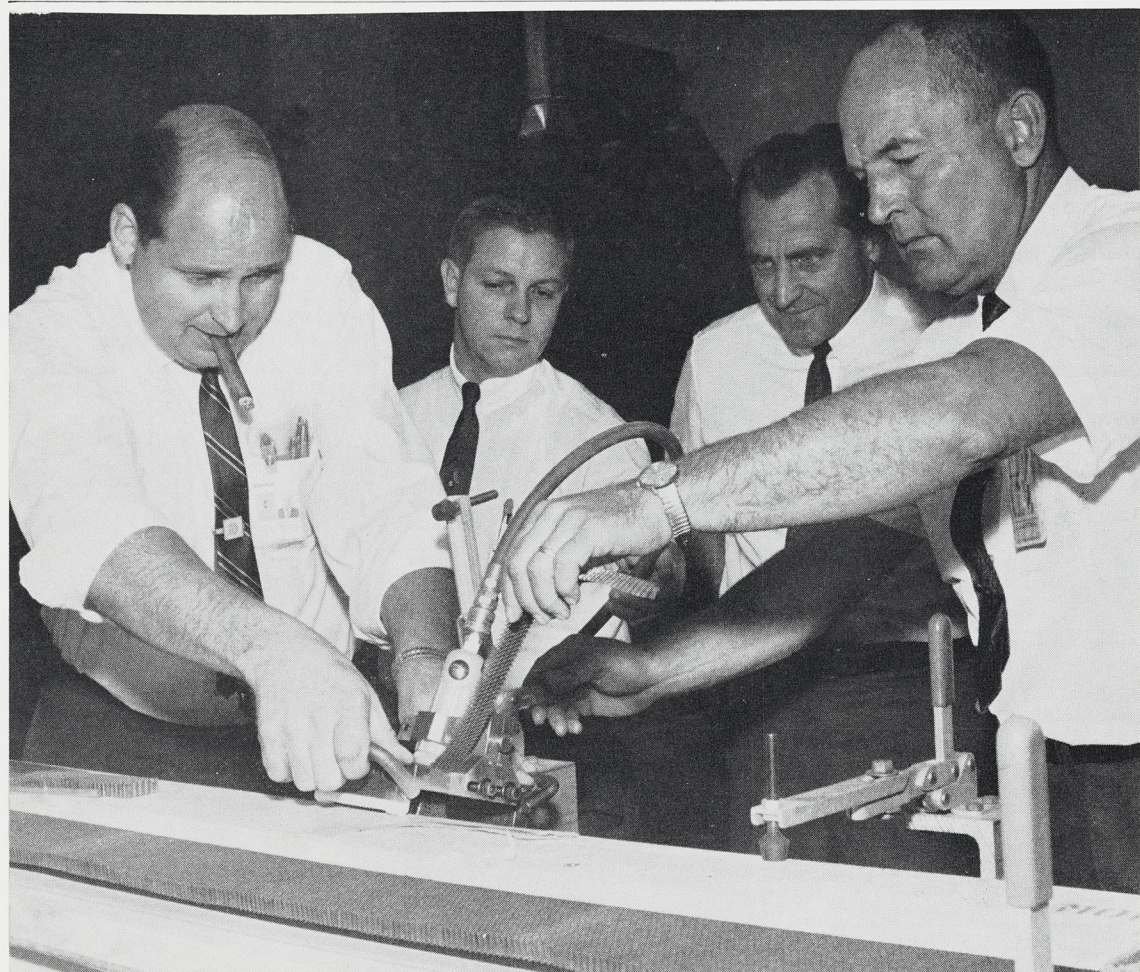
TOKO, the Junior Achievement company which is counseled by Northrop Ventura employees, has openings for additional "achievers" during the spring semester.

That's the word from Ventura's Chuck Taylor, coordinator-adviser to TOKO.

"We welcome tenth through twelfth grade students from any school in the Conejo Valley area," Mr. Taylor said, "and it seemed to me that many Ventura employees probably have children in that age group who would like to participate in Junior Achievement."

TOKO (for "Thousand Oaks Company") meets at 7 p.m. each Monday at Newbury Park High School. Additional information may be obtained by contacting Mr. Taylor on ext. 1105 or Doug Finch on ext. 1100.

TOKO will elect officers for the spring semester this month.



SHAPING THE HONEYCOMB—Nylon-based honeycomb material, used in wing fairings for the Boeing 747, is shaped by these Northrop Ventura employees. They are (from left) Bob

Byram, Dave Parker, Bill Lang and Jack Bunnell. The honeycomb material is sandwiched between sheets of fiberglass.



STUDYING THE BOOKS—Walter Knox of Northrop Ventura, management adviser to TOKO, a Junior Achievement company, talks with Mike Finch, treasurer of the Conejo Valley-based firm. TOKO is seeking new participants for the spring semester.



# NORTHROP NEWS

NORTHROP VENTURA

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## Countywide Career Meet Under Way

For the second consecutive year, Northrop Ventura is one of the key participants in the Ventura County Career Planning Center, being held this week at the Ventura County Fairgrounds.

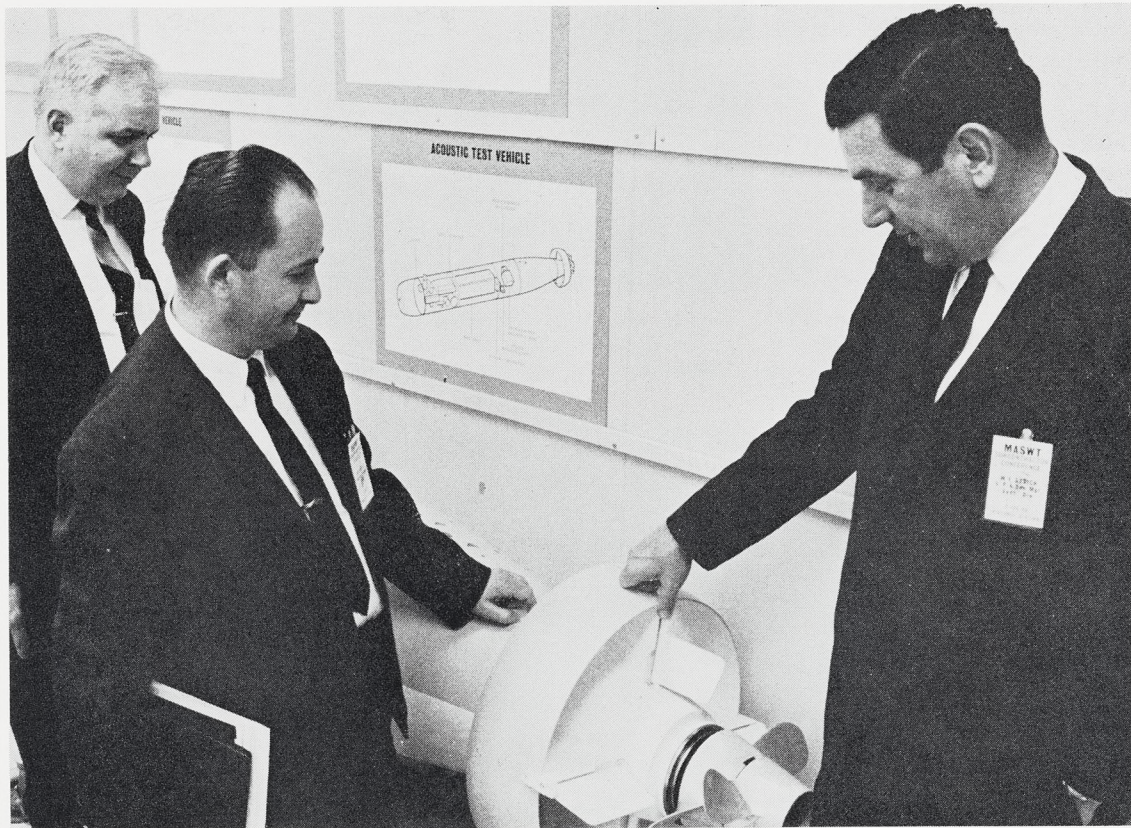
The center, sponsored by the Ventura County Industry-Education Council, opened on Monday and will continue through Friday. An estimated 9,000 students from local high schools and junior colleges are expected to attend.

"The center is designed to encourage young people to inquire about, investigate and begin to plan for the many careers which are available in Ventura County," Rex Fairless, director of Industrial Relations at Northrop Ventura, said.

"We will have seven representatives at the center, along with product displays and literature describing just what Northrop Ventura has to offer. We hope to interest many of these young people into finding out what we can do for them; and they, for us."

Representing Northrop Ventura will be Bob Hutton, Bob Parsons, Don Archer, Mary Kelting, John Bason, Al Robinson and Carl Shoesmith.

Northrop Ventura is one of 24 representatives of government, business, agriculture and industry participating in the second annual event. Also included are other industrial firms, the Naval Air Station at Pt. Mugu, banks, (See CAREERS, page 6)



**CONTRACTORS' MEETING** — Examining a dummy model of Northrop Ventura's Mobile Anti-Submarine Warfare Target are (from left) Gus Duke, Ventura Marine Systems program manager; John Roberts, MASWT program manager for the Naval Ordnance Systems Command; and Welko Gasich, vice president and Ventura general manager. The men met this month at a subcontractors' conference on the MASWT Program.

ager for the Naval Ordnance Systems Command; and Welko Gasich, vice president and Ventura general manager. The men met this month at a subcontractors' conference on the MASWT Program.

## Management Club To Hear T. V. Jones

Northrop President Thomas V. Jones will be the guest speaker at the March meeting of the Northrop Ventura Management Club.

The meeting will be held on March 12 at the Los Robles Inn in Thousand Oaks. A 5:30 to 7 p.m. social hour will precede the meeting.

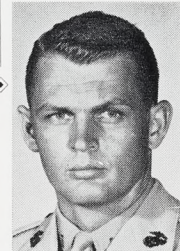
Tickets may be obtained by contacting area boosters.

## UNUSUAL GIFT

### A Tiger From Thailand

"It has to be the most unusual Christmas present I've ever received."

That's what Ben F. Collins, jr., Northrop Ventura Division program manager for Aeronautical Systems, had to say about the tiger rug which graces the floor of his office in the Administration Building.



Capt. Collins III

The rug, made from the skin of a real tiger is complete with claws, glass eyes and real teeth, was a gift from Mr. Collins' son, U.S. Marine Corps Captain Ben F. Collins III, who was home on leave from Southeast Asia for Christmas.

"My son was on rest and relaxation leave in Bangkok, Thailand," Mr. Collins said, "and figured there was nothing I needed more than a tiger rug. So he bought it, and here it is."

## Engineering Department Appointments Announced

George Grogan, Northrop Ventura vice president and manager of Engineering, has announced three appointments in Engineering, effective this week.

H. W. Barber has been assigned to Advanced Design, to assist C. H. Green in activities related to the MQM-74A Program. Robert Provart has been appointed chief of Design Engineering. And Robert Worth has been named chief project engineer of the Subcontracts Projects office.

Each of the three, Mr. Grogan said, "has contributed significantly to the department progress in the past several years."

## NV, Italian Firm To Build NVM-1 Drone

An agreement for the joint manufacture and sale of drone aircraft has been reached between Northrop Ventura and Meteor, S.P.A., the largest drone manufacturing firm in Italy.

The joint venture, which will extend over a span of five years, was finalized at Ventura in meetings between Dr. Furio Lauri, president of the Rome-based company, and Welko Gasich, vice president and Ventura general manager.

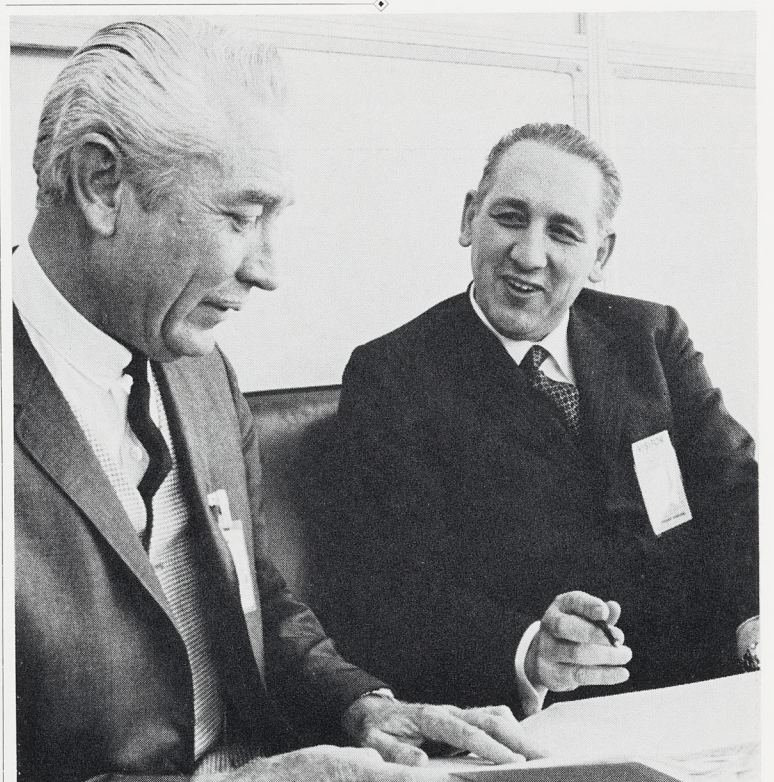
The arrangement covers the manufacture of the NVM-1, a modified version of the propeller-driven KD2R-5 target vehicle, which Northrop Ventura has produced for the training of United States and Allied military forces for more than a decade.

Stiles Burke, director of International Sales for Northrop Ventura, said the agreement "greatly strengthens our position in the Italian market."

"We believe our active partnership with Meteor will result in the expansion of target system operations there."

The NVM-1, which incorporates a highly efficient rocket-assist takeoff bottle developed by the Italian firm, is used to train military crews in the use of automatic weapons and ground-to-air missiles.

"From our arrangement with Meteor," Mr. Burke said, "we see the strong possibility of collaboration in the manufacture and sale of drone systems to other nations in Europe and the Middle East."



**TARGET DRONE AGREEMENT** — Dr. Furio Lauri (right), president of Meteor, S.P.A., largest drone manufacturing firm in Italy, talks with Stiles Burke, director of International Sales for Northrop Ventura. The two firms have agreed to the joint manufacture and sale of the NVM-1, which will be an unmanned target drone modification of the successful KD2R-5. The meetings were held at Northrop Ventura.



**TIGER FROM THAILAND**—Ben Collins displays a tiger rug which adorns his Administration Building office at Northrop Ventura. The rug—complete with original claws and teeth—was a Christmas gift from Mr. Collins' son, a Marine Corps captain, who bought it in Thailand.



## Bill Warwick; Pilot And Aircraft Designer

Unless it's raining, don't try to contact Bill Warwick on weekends.

Because, weather permitting, the 18-year Northrop employee is out of town every Saturday and Sunday, piloting one of his two homebuilt airplanes throughout the western states.

"I've been to just about every airport in the west," Mr. Warwick said. "I have a boat at Lake Havasu, and I fly there quite often. Or I'll head for San Francisco or Las Vegas—anywhere I feel like going."

Mr. Warwick has been a pilot

since 1949, and has been designing and building airplanes for 10 years. Twice—in 1960 and 1967—his planes have won the Outstanding Design Award, presented annually by the Experimental Aircraft Association (EAA), of which he is a member.

Mr. Warwick, a bachelor, is a senior laboratory technician in the Norair Engineering Laboratories.

In 1950 and 1951, while in the Army, he flew as a crew chief in Germany.

Back at Northrop and in civilian life, he continued flying, and then decided to build and fly a plane of his own design.

He lives in Torrance, not far from Torrance Airport, and admits:

"My car has never seen the inside of my garage."

He does all his subassembly work in the garage, and completes final assembly in the hangar at the airport.

He designed two versions of a single-seat craft he called the Tiny Champ. One of these was the 1960 EAA design winner. He later built a Thorp T-18 Tiger, and since has completed his single-seat Bantam, the 1967 EAA winner.

Early this month, he was asked to display the Bantam in a program, "A Night in Aviation History," at the Proud Bird Restaurant near Los Angeles International Airport.

Mr. Warwick flew the plane from Torrance to Los Angeles, and then taxied it to the restaurant parking lot. He was to have flown back to Torrance after the program, but a low cloud ceiling forced him to wait until the next day.

He considers himself both a pilot and a builder of airplanes, but admits that piloting rates a slight preference over building.

He has flown his planes as far north as the Canadian border, as far east as Illinois and as far south as Dallas. This summer, he'll enter Canada to compete in an aviation convention and show in Abbotsford, British Columbia.

"I've been to the EAA meeting for eight consecutive years," Mr. Warwick said. "I thought I'd go to Canada for a change."



OVER ILLINOIS — Northrop's Bill Warwick pilots his homebuilt Thorp T-18 over rural Illinois on the way to the Experimental Air-

craft Association's annual meeting in Rockford. Mr. Warwick has been building airplanes for 10 years. He still owns the Thorp.

## Northrop Men Fill Roster of Top-Rated Team

When the Hawthorne Hustlers take the field in Western Softball Congress action there is a definite "Northrop air" about the diamond.

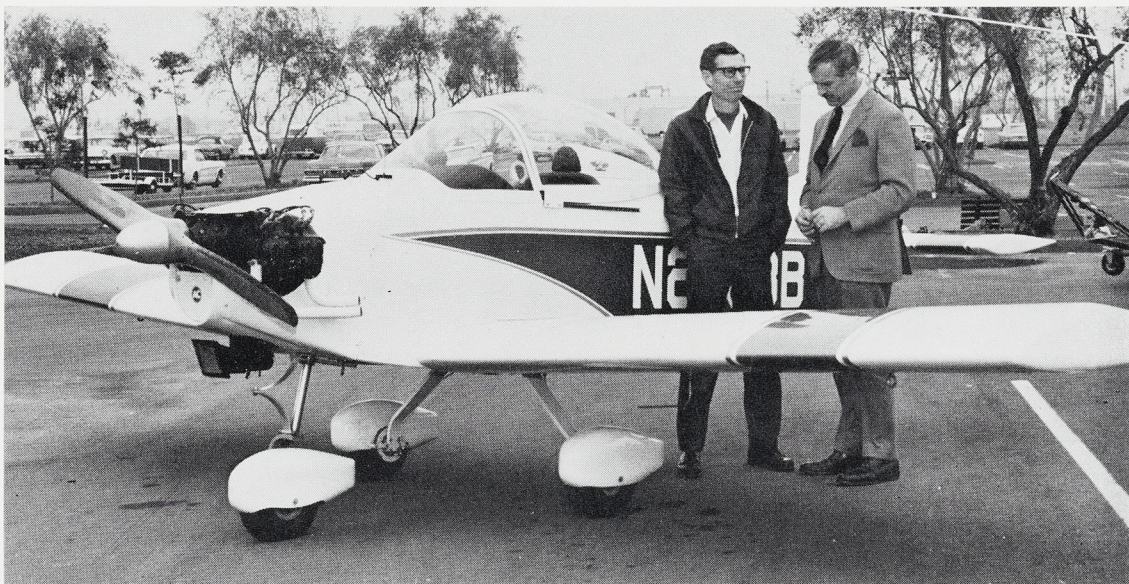
That's because five starters, the general manager and the team publicist are Northrop Norair employees.

Greg Halberg, Contract Administration and Jack Jones, A.O.C. Operations are pitchers; Terry Birdsall, Factory Operations, is the catcher; Bill Greene, Product Support, plays second base; and John Monson, Maintenance, is an outfielder. Monte Halberg, Factory Operations, is the general manager and Ray Hofius, Product Support, is the publicist.

The Hustlers are the top-rated team in the area and compete against teams from Anaheim, Long Beach, Lakewood, La Mesa, Las Vegas, Oxnard and San Diego. Western Softball Congress teams have won six of the last nine world championships.

Area merchants and businesses support the team and all games are free to spectators. They are played locally at Prairie Park in Hawthorne. Tryout and pre-season games are played in March with the initial home game, against La Mesa, set for April 13 in Hawthorne.

This is the second year of action for the Hustlers. After a slow start last year, they won eight of their final 14 games.



HIS LATEST PROJECT—Bill Warwick (left) talks with newsmen Cleve Roberts, as they stand beside Mr. Warwick's Bantam, which he de-

signed and built. Mr. Roberts was master of ceremonies at a recent dinner, at which Mr. Warwick was asked to display his airplane.

## Gun Club Schedules March 14 Shoot

The Los Angeles Gun Club, Redondo Beach, will be the scene of an NRC Gun Club shoot March 14. Practice rounds will be fired from 6:30 to 7 p.m. with .22 events at 7 p.m. and center fire action at 8 p.m.

Participants are to bring their own guns and ammunition. Trophies will go to the highest scorer in each category.

The match will include firing 10 rounds slowly, 10 at a timed speed and 10 in rapid fire. A business meeting, and the awarding of trophies, will follow the match.

## Penrod Elected President By Credit Union Board

J. S. Penrod of Northrop Nortronics has been elected president of the Northrop Credit Union for 1968 highlighting the activities of a board of directors named earlier this month by shareholders.

Serving with Mr. Penrod as a Credit Union officer will be Mary B. Delaney, secretary-treasurer.

In other action, the board selected H. L. Cook to chair the Credit Committee which includes J. L. Dew and F. E. Wolfe as members and G. W. Thornton to chair the Supervisory Committee with A. W. Johnson as secretary. Other members of this committee are E. R. Foord, H. J. Grothmann and H. A. Ralles.

The board of directors is comprised of Mr. Penrod, Mrs. Delaney, L. L. Cripe, D. H. Grothe, R. D. Hampton, J. J. Richardson, W. D. Schramm and L. W. Monger.

The board also re-appointed office staff members to serve for another year.

They include: Mrs. Delaney, treasurer-manager; William H. Morris, assistant to the treasurer; Mary D. Josalle and Florence Montgomery, assistant treasurers; Kay Walker, cashier; Peggy Faubion, loan officer; Nellie Boener, accountant; Helen Walker, membership chairman; and office staff members Jean Muira, Dean Perschy, Norma Thomas, Linda Forstrom and Wilma Robinson.

The Northrop Credit Union annual report is now being compiled for 1967 and will be distributed to all shareholders in March or April.

Earlier this month, it was announced that shareholders will receive a dividend of 6¼ per cent on their savings. The dividend will be applied to shareholder accounts on record November 30. The quarterly statements will be distributed April 1.

## Alaska, Hawaii Among Tours Set By Travel Club

Northrop Travel Clubs have revised their group tour plans for the coming year.

The move will help Northrop families stretch their travel budgets and at the same time aid in stemming the flow of U.S. dollars overseas through tourism.

The four group tours selected by NRC Travel Club commissioners from Norair, Nortronics and Ventura Divisions will be within the Western Hemisphere and therefore not subject to taxation as overseas tours.

Plans for each tour are being finalized and brochures describing them will be available for distribution shortly through Personnel Activities outlets.

Briefly, they involve a May tour of the Caribbean, a September visit to Alaska, the annual yearend holiday trip to Hawaii and an early 1969 (February) trip to South America.

The Hawaiian trip will be eight days long. An optional extension will enable travelers with vacation time remaining to stay in the Islands for 12 days.



JAPANESE STUDY TEAM—For the second time in a year, a Japanese study team has selected the Northrop management development program for observation as part of the team's month-long tour of U.S. industrial operations.

John B. Rushmer (left), director of Management Development, briefs 18 representatives of Japanese industry during their visit to the Northrop Corporate office.





**SPANISH VISITORS** — This quartet spent a busy week this month touring Northrop facilities for talks with key officials. They are (from left) Jose Cerverra, plant manager, and An-

tonio Morino, chief engineer, for CASA's plant at Sevilla, Spain; Paul Jacobs, Norair program manager, SF-5; and Major Luis Gil Colomer, Spanish Air Force.

## Spanish Officials Visit Northrop Facilities

Northrop Corporation was host this month to three Spanish officials for a busy week of discussions and fact-finding visits to Northrop facilities and the plants of select Northrop suppliers.

Sr. Jose Cerverra is plant manager and Sr. Antonio Morino, chief engineer at the Sevilla Plant of Construcciones Aeronauticas, S.A. (CASA). Major Luis Gil Colomer is the Spanish Air Force senior representative for the Tabalado District of Spain in which the Sevilla CASA facility is located.

CASA is the Spanish aircraft firm licensed by Northrop to build the Northrop F-5 tactical

fighter for delivery to the Spanish Air Force.

In addition to talks with Northrop President Thomas V. Jones, Vice President F. W. Lloyd, P. A. Jacobs, SF-5 Program manager, and other Northrop officials, the visitors toured Northrop facilities at Norair, Ventura and Nortronics Anaheim.

The visitors were primarily concerned with familiarizing themselves with manufacturing methods and processes as they relate to the production of F-5 tactical fighters.

CASA has the contract to build 36 F-5's and 34 F-5B's.

## Stock Shares To Be Listed In Midwest

Trading began this week on the Midwest Stock Exchange for Northrop Corporation common stock and \$1.45 cumulative preferred stock.

Northrop common stock also is listed on the New York and Pacific Coast Stock Exchanges, and the preferred stock is listed on the New York board.

The new listing was made as a convenience to brokers and investors in the area served by the Midwest Stock Exchange, which includes the metropolitan centers of St. Louis, Chicago, Minneapolis, St. Paul and Cleveland.

Northrop gained more than 4,000 shareholders in 1966 as a result of the acquisition of the Hallcrafters Company of Chicago. Many of these shareholders live in the midwest.

## AIAA Warns Youngsters of Rocket Dangers

The American Institute of Aeronautics and Astronautics has announced it endorses the use of model rockets for youngsters interested in rocket experiments, but continues its strong disapproval of homemade rockets.

The AIAA, in guidelines issued to its 67 sections across the country, said:

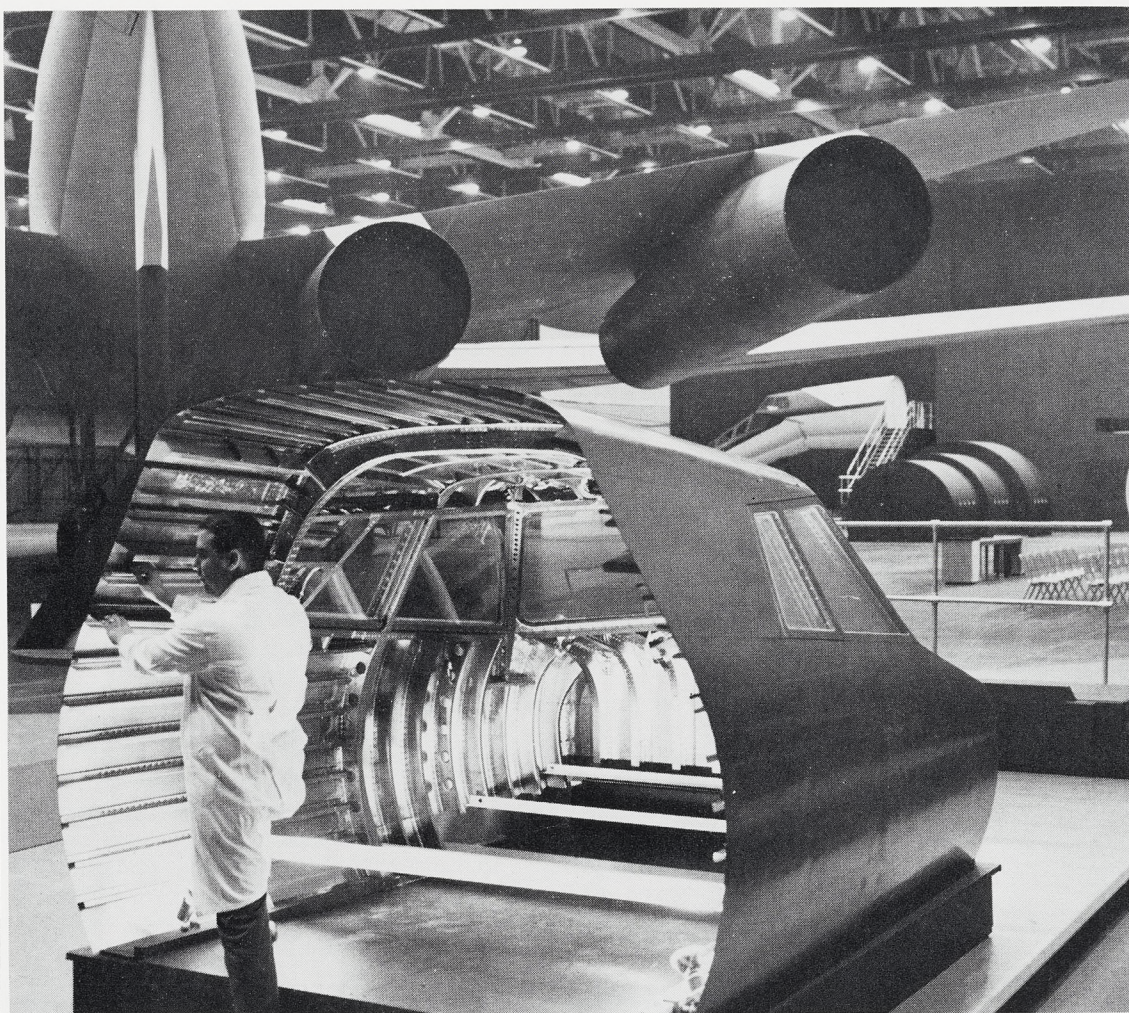
"Amateur rocketry, using experimental rockets made of metal tubing and powered by home-mixed propellants, is not encouraged or endorsed.

"Many propulsion experiments can be conducted without pyrotechnics. Carbon dioxide, water and other fluids can be used to demonstrate rocket principles."

## Trap, Skeet Club Sets Target Shoot

Northrop Trap and Skeet Shooting Club members will gather at the Golden Valley Gun Club March 14 for a monthly shoot.

Signups will be taken from 9:30 a.m. to 12:30 p.m. with the first squads on the line at 10 a.m. Fifty trap and 50 skeet targets will be thrown for an aggregate of 100 for the day. Trophies will be awarded in each of five handicap classes.



**SUPERSONIC SCENE**—Full-scale mockup of America's Supersonic Transport (SST) at The Boeing Company looms above an all-titanium pilot's compartment built for test purposes. Norair fabricated the majority of 843 detailed

parts it contains in Production shops and Manufacturing Research and Development. Norair also produced three special titanium wing boxes for use in test programs on the SST. The jet will reach speeds of 1,800 m.p.h.

## Blood Donors Sought For March 6 Drive

Volunteer blood donors from throughout Northrop's Hawthorne complex are being signed for a two-shift bloodmobile visit set for March 6.

First shift donations will be accepted from 9 to 11 a.m., noon to 2:30 p.m., and second shift from 4:30 to 9 p.m. at NRC Clubhouse, Hawthorne.

Sustaining members of the Northrop Blood Program (there are more than 400 of them) will be scheduled automatically. Those desiring to join this select group as well as those who want to give once are now being solicited. Contact your department clerk.

## Airplane Club To Meet

Northrop's Model Airplane Club will stage a "Hurricane Contest" from 9:30 a.m. to 1 p.m., March 10 at the Los Angeles Model Airport in the Sepulveda Basin. Trophies will be presented in several events.



**TOMORROW'S LEADERS** learn something of today's business as Grant Gunderson, chief of the Production group at Anaheim, explains the basics of manufacturing to sixth graders from the Harbor View Elementary School at Corona

del Mar. The 60 young students and their two teachers were divided into small groups, presented with safety glasses and given a Nortronics plant tour as a field trip to supplement studies concerning manufacturing.

## T.V. Jones Elected to Stanford Post

Northrop President Thomas V. Jones has been elected to the Board of Trustees of Stanford University.

Mr. Jones is a director of the Stanford Research Institute and a member of the School of Engineering Advisory Council. He received a bachelor of arts degree in engineering from Stanford in 1942, graduating with summa cum laude honors.

He is trustee of the California Institute of Technology, and a member of the UCLA Arts Council. He has been a Stanford Associate since 1965.

Mr. Jones also is a director of the Times Mirror Company and the Los Angeles World Affairs Council.

## Show Tickets Available

Northrop Recreation Clubs have obtained a block of 500 orchestra seats for the 5 p.m. April 13 showing of the musical "Half a Sixpence" starring Tommy Steele.

Regular \$3 reserved seats are now available for \$2.40 each through Personnel Activities outlets at all Northrop facilities.





**JUST WARMING UP**—Physical conditioning is very much a part of NRC-sponsored Karate instruction. Going through a warmup routine are Hank Frost (left) and Dave Sampson. Classes, meeting Monday and Wednesday (5 to 6 p.m.) are open to men and women.



**KEEP YOUR BALANCE**—Instructor Willie Norris, a Norair Graphic Services employee, delivers a front kick aimed at John Anderson, assistant instructor, in demonstration. Mr. Norris is one of the top 10 heavyweight Karate experts in California, holder of a Black Belt, and winner of many competitions.



**FIGHTING STANCE** — NRC-sponsored Karate class goes through a preliminary warmup by taking a fighting stance. Karate is one of the oldest forms of self-defense known. NRC classes stress personal defense and physical and mental conditioning.



**NO CREAM PUFF HERE**—Petite Diana Jolsin combines facial and leg action to demonstrate a Karate defensive move with Instructor Willie Norris as NRC-sponsored class looks on. Miss Jolsin is a top student among groups that

meet two evenings each week at NRC Clubhouse, Hawthorne. All Northrop employees are eligible to attend the classes. Mr. Norris said interest among second shift employees may lead to the formation of a Saturday morning class.

### POPULAR NRC CLASS

## Karate—The Study of Self-Defense

Willie Norris is the type of man you like to have around.

At Northrop Norair, where he works as a Graphic Services stock clerk, he is known as a young man with a pleasing disposition and infectious grin. They blend well with his neat, trim-cut collegiate-like appearance.

This outward appearance is deceptive in that he may also be compared to an armored Brink's truck—thoroughly protected and virtually impossible to push around.

Mr. Norris is a Karate expert, holder of a Black Belt, a veteran instructor, winner of five of the last six competitive events he has entered, and one of the top 10 heavyweights in California.

Two evenings each week (Monday and Wednesday, 5 to 6 p.m.), Mr. Norris conducts an NRC-sponsored Karate class at NRC Clubhouse, Hawthorne, open to

all Northrop families, men and women, from 8 to 80 years of age.

The class has a single objective—to teach self-defense.

Karate is self-defense, one of the oldest of the oriental defense methods. It is an ideal art for women alone or individuals charged with the protection of a family.

Paramount consideration is given physical conditioning, body toning and basic skills. Mental conditioning, quick reflexes and self-confidence follow.

"Our classes are open, no beginning or end. Students come and go, free to remain as long as they like," Mr. Norris says.

Mr. Norris learned Karate from his older brother, Chuck, a former Norair employee, who picked it up while serving in Korea. The brothers now operate a school in Torrance, the only school in the

greater Los Angeles teaching the Korean Tang Soo Doo method, one of several forms of Karate.

Chuck Norris is a three-time world champion in Karate competition who travels around the world to compete. He also assists in teaching the Northrop classes, especially in conducting examinations required to advance from one level to another.

Willie and Chuck Norris consider competition to be more of a sport than anything else. They consider instructing in self-defense to be their real calling.

Spectators are invited to the classes, Mr. Norris said.

There has been significant interest in the class among second shift personnel, and a Saturday morning class may be added for second shift employees.

Additional information may be obtained by calling Mr. Norris on Norair ext. 4581.



**LIKE A CAT**—Although Instructor Willie Norris is well above the floor as he delivers flying side kick at John Anderson, assistant

instructor, he will wind up on his feet. Karate classes teach such maneuvers only as a means of self-defense for individual students.

PHOTOS BY IKE MURATA



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

For Sale	
Renault, 1963 R-8, \$400. 714-879-0094.	A
MG Midget, 1963, \$850. 677-6987.	A
Ford, 1956 2-dr. h/top, new eng., tires & battery, \$300. 714-549-2763.	A
MGA, 1959 roadster, concourse, wire whls., many extras, \$800. 676-4050.	A
T-Bird, 1960, new generator, water pump & fan belts, air cond., heater, \$800. 673-2559.	A
T-Bird, 1959, under 40,000 miles, \$750. 678-0766.	A
Wheels, 5 Porsche w/Michelin tires, \$60 or \$15 ea. & Porsche hub caps, \$3 ea., 596-3691.	A
Cobra GT-500, customized, \$6,500. 273-0488.	A
Mercedes-Benz, 1957, 220S, 4-dr. sedan, \$400. 375-0449.	A
Oldsmobile, 1960 station wagon, air cond., auto. trans., p/s, p/b, \$275. 326-1146.	A
Ford, 1963 convt. XL500, new paint & tires, \$995. 869-4608.	A
Motorcycle, 1967 Harley-Davidson XLH sportster, elec. starter, \$1,469. Box 401.	A
Station Wagon, 1963 Falcon Deluxe 4-dr., new clutch & brakes, \$650. 883-7542.	A
Corvette, 1965 Fastback, AM-FM, 4-spd., 3:36 positraction rearend, p/windows, \$2,900. 370-4316.	A
Corvair 700, 1961, Powerglide, r/h, \$375. 324-0847.	A
Oldsmobile, 1963 Super 88 Holiday, 4-dr. sedan, fact. air, p/s, p/b, p/w, radio, \$1,225. 375-3914.	A
Van, 1964 Dodge Compact, 6-cyl. stick, r/h, camper windows, \$950. 714-539-9964.	A
Oldsmobile, 1966 Starfire, p/b, p/s, p/w, b/seats, console, fact. air, \$2,975. Box 402.	A
Volkswagen, 1962 convt., eng. rebilt., new brakes, clutch, & tires, solid-state radio, \$900. 478-7100.	A
Studebaker, 1931 Commander, 4-dr., \$650. 467-0319.	A
Triumph, 1956 w/1961 eng. & trans., new clutch, needs body work & paint, \$300. 324-3813.	A
Station Wagon, 1955 Rambler, \$60. 374-4703.	A
Cadillac, 1963 coupe, air cond., new paint, \$1,800. 323-3051.	A
Volkswagen, 1964 sedan, \$1,000. 422-4942.	A
Volkswagen, 1956, r/h, \$370. 327-4441.	A
Chemical Toilet, flush-type, Corlon convt., for camper, trailer, supply of chemicals, \$50. 644-2401.	A
Lawnmower, Sears Reel, used twice, \$90. 377-7670.	A
Airplane Propeller, fully controllable, Sensenich skyblade, zero time s.m.o.h., for 125 h.p. Lycoming eng., \$250. 327-2621.	A
Arc Welder, 300 amp., Crosley eng. powered, \$125. 677-4410.	A
Power Mower, Craftsman, reel-type, \$20. 347-0298.	A
Twin Beds, box springs, mattresses, triple dresser & night stand, provincial, mahogany, \$170. 672-2723.	A
Furniture, 3 rooms fully furnished w/23" TV & 14 cu. ft. refrigerator, \$500. 644-4823.	A
Crash Helmet, Bell, grey, visor, size 6 3/4, \$20. 397-2055.	A
House, 4-bdrm., block wall, patio, bltin barbecue, fireplace, \$29,900. 320-6975.	A
Organ, Conn minute deluxe w/bench, \$1,250. 675-0521.	A
Honda, 1966 CL160, \$325. 373-3669.	A
Stereo Tapes, 8, classical & popular, reg. \$3.50; twin pack \$5. 323-6795.	A
Surfboard, Rick, 9'4", \$50. 325-5875.	A
Headboards, 2 matching, twin size, bookcase-type, \$10 ea. 329-4559.	A
Bicycle, Sears 10-spd. racer w/speedometer, \$25. 676-8816.	A
China, Wentworth, Silver Wheat pattern, service for 8 incl. snack set w/cups, never used, \$80. 676-6303.	A
Dog, Great Dane, male, 1 yr. old, ears cropped, house broken, \$100. 672-3387, 677-9187.	A
Mini-Bike, Rupp Continental, new 3 1/2 h.p. Tecumseh eng., \$125. 714-494-6940.	A
Sander, Sears Craftsman, dual motion, industrial-type, \$25. 756-9697.	A
Piano, Vose & Sons, 3/4 upright, mahogany, \$200. 675-7729.	A
Lens, 135mm f:3.5 auto. Schneider for Exakta, \$45. 835-3869.	A
Boat, 19', 1965 Glastron V195, Mercruiser 150, power tilt, sleeps 4, marine radio, 70-gal. fuel cap., tandem trailer, \$4,200. 323-6366.	A
Slip Lot, Salton Sea, roads & utilities in, south side of sea, near yacht club, \$7,100. 714-535-1694.	A
Track Shoes, boy's 9 1/2, w/removable spikes, \$5. 325-2292.	A

For Sale	
Trail Bike, 1964 Yamaha 80, \$250. 323-9598.	A
Vacuum Cleaner, Eureka canister w/attachments, \$10. 672-5545.	A
Guitar, grand concert size, rosewood back, ebony fingerboard, \$200. 377-2634.	A
Motorcycle, 1965 Harley Davidson, 50cc, extra sprocket & chain for dirt riding, \$105. 377-4943.	A
Ski Boots, men's, size 10 1/2 & Austrian metal laminated skis & trappings, worn once, \$50. 343-6213.	A
Acreage, in Apple Valley, \$200 dn., 1% mo. on unpaid bal., \$4,800 ea. for 5 or \$9,300 for 10, 327-3616.	A
Range, elec., 4-burner, full size, \$15. 323-6794.	A
Encyclopedia Britannica, cost \$500, \$380. 466-4657.	A
Camera, preset Travenar, f3.5 x 135 mm, \$20. 377-4019.	A
Lot, 50 x 110, \$3,500. 783-5117.	A
House, in Hesperia, 2-bdrm., cpts., fireplace, bltins, dps., lge. gar. w/guest room & 3/4 bath, 1 acre lot zoned R-3, close to new lake, \$14,900. 644-3803.	A
Movie Camera, projector & film splicer, \$75. 714-539-2098.	A
House, 4-bdrm., Wilmington area, sell for equity of \$1,700 dn., assume existing loan, \$28,750. 835-9238, 714-540-7283.	A
Distributor, Dupoint for Plymouth 318 eng., \$25. 714-535-6296.	A
Acreage, 5 acres, Hemet area, near Homeland on Hwy. 74, \$35,000. 714-642-2616.	A
Board Fence, 450 sq. ft., used redwood, 4x4 slotted posts, gate w/hardware, \$20. 370-7092.	A
Cartop Carrier, Sears Deluxe, 48" fits any American car, \$25. 323-3796.	A
Curtains, 20 panels, 62" x 24", brown & white Hawaiian-style cotton print, \$15. 379-3487.	A
Battery, heavy duty marine 175 A.H., 3 mos. old, \$10. 672-7424.	A
Residential Lot, fully improved, near elementary school, \$19,950. 375-0867.	A
Honda, 1967 Scrambler, 400 miles, \$250. 324-6155.	A
Ring Set, engagement & wedding, \$200. 376-6182.	A
House, in Playa Del Rey, 2-bdrm. & den, lge. living room w/fireplace, dble. gar., fenced yard, \$36,000. 398-0012.	A
TV, Zenith console w/remote control, walnut cabinet, 21", b&w, \$200. 651-0445.	A
Boat, 15 1/2', Glenn L. Hull, seat & steering, \$160. 675-6727.	A
Camera, Leica, w/50, 90, 135mm lenses & accessories, \$99. 679-2635.	A
Honda 50, 1965, \$115. 363-3843.	A
Camper, 10 1/2' w/unloading jacks, 2-side dinette, sleeps 4, \$950. 714-535-1016.	A
Home, 3-bdrm., fam. rm., 2 baths, cpts., dps., h/wood flrs., bltins, fireplace, appraised \$31,500, \$29,500. 714-772-8345.	A
Home, 3-bdrm., L.A. Harbor view, \$33,500. 833-9455.	A
Acreage, Willow Springs area, 5 acres, 330 x 660 corner, 3,300' elevation, \$20 dn., \$20 mo., \$2,000. 325-3057.	A
Dining Room Set, olive green & white, \$100. 329-6553.	A
Engagement Ring Set, ladies' 18K white gold orange blossom solitaire diamond w/brilliant cut diamond weighing .74 ct., appraised at \$1,100, \$500. 672-5286.	A
Honda 50, 1964, \$100. 378-4676.	A
Power Lawn Sweeper, Craftsman 28, Briggs & Stratton 2 h.p. 4-cycle gas. engine, \$37. 714-528-7636.	A
Acreage, 2 1/2 acres in Antelope Valley between Rosamond & Mojave, level, \$35 dn., \$35 mo. inc. 4% interest, \$3,500. 378-1026.	A
Transmission for 1936 Cadillac, Series 60, \$10. 758-9182.	A
Band Saw, Craftsman, 12", w/steel stand & motor, \$75. 633-6082.	A
Acoustical Guitar, custom made by Jose Oribe, \$70. 373-4147.	A
Rims & Tires, 4 chrome, 14" for Chevrolet, \$95. 324-8618.	A
Volkswagen, 1963 sunroof, radio, new tires, paint & shocks, \$850. 423-5646.	A
Austin Healey, 1962 Mk. II 3000, o/drive, wire wheels, \$1,195. 477-7314.	A
Oldsmobile, 1960 Super 88 4-dr. sedan, air, p/s, p/b, newly replaced parts, \$300. 788-8541.	A
Renault, 1964 4-dr., r/h, 4-spd. shift, 40 h.p., 4 whl. disc brakes, Michelin tires, \$550. 783-8271.	A
Chevrolet, 1955 Nomad, 3-spd., 4-barrel, \$400. 329-9484.	A
Corvette, 1967 Fastback, p/s, p/b, a/c, 4-spd., 350 h.p., AM-FM radio, wide oval tires, \$4,250. 679-7325.	A
Pups, German shepherd, purebred, from champ. stock, \$30. 320-6990.	A
Poodle, miniature, silver, AKC reg., 11 wks. old, has shots & clipped, \$75. 714-546-0752.	A
T-Bird, 1963, full power & factory air, \$1,200. 325-3724.	A
Boat, 14' runabout, trailer, 30 h.p. Mercury eng., \$320. 671-8672.	A
Rug, 12x14, rose beige, 2 yrs. old, \$75. 674-4563.	A
Shotgun, Browning superpose 12 gauge, 3" magnum, 30" barrel, \$335. 379-4587.	A

For Sale	
Ford, 1961 V-8, 2-dr., r/h, auto. trans., \$425. 328-3306.	A
T-Bird, 1955, all power, \$1,300. 292-8059.	A
Desk, walnut, office size, glass top incl., \$50. 679-6215.	A
Sailboat, 16' Pearson Hawk, fiberglass, dacron sails, trailer, extras, \$1,200. 375-1380.	A
House, 3-bdrm., 2 baths, 8 min. to Northrop, fenced yard, cpts., dps., 5 1/4% financing, \$31,500. 377-3532.	A
Toyota, 1966 Corona, auto. trans., citizens band radio, \$1,800. 320-4823.	A
Oven, child's, \$3. 379-5690.	A
Dodge, 1959 Coronet, 2-dr., new tires, \$250. 714-525-4365.	A
Bus, 1962 Greenbrier, good tires, r/h, 3rd seat, \$300. 675-1291.	A
Porsche, 1956 Speedster, o/hauled, new top, \$1,250. 438-8331.	A
Lot, 1/4-acre, Hollywood Riviera, \$15,000. 672-4450.	A
Ski Pants, ladies', White Stag, never worn, size 14S, black, \$12.50. 329-6728.	A
Kitchen Sink, coppertone, 3 sectional, disposal in middle, all connections, \$100. 582-1079.	A
Pup, miniature dachshund, male, 7 lbs., red, 1 1/2 yrs. old, AKC, shots, \$60. 714-828-8939.	A
Living Room Set, 5-pc. made by Kroehler, \$210. 714-892-5801.	A
Comanche 180, 1958, new annual Narco MK 12A w/VOA4, MK 2 omnigator, a.d.f., full gyro panel, 160 m.p.h. cruise, \$8,900. 375-0615.	A
Tires, 2 1200 Indy, w/racing tubes, \$80. 379-4075.	A
Chevrolet, 1958, 4-spd. Munzie 4:11 positraction rearend, stereo record player w/vibrasonic speakers, many extras, \$500. 379-5709.	A
Cemetery Lots, 4 in the Eventide Sect. of Green Hills Memorial Park, inc. perpetual endowment care, \$1,600. 376-4677.	A
Ford, 1962 Country Sedan, r/h, \$750. 372-1259.	A
Pontiac, 1964 GTO, 4-spd., r/h, \$1,200. 390-1619.	A
Ford, 1959, 4-dr., auto., \$250. 635-3056.	A
Ford, 1962 Fairlane 500, auto., p/s, \$795. 882-0761.	A
Pontiac, 1963 Catalina convt., p/s, p/b, r/h, auto., \$995. 472-2722.	A
Renault, 1959 4CV, w/'62 Dauphine eng., \$65. 328-9064.	A
Cessna 170, 1953, 650 hrs. s.m.o.h., Motorola M135 & Narco MK 1, \$4,795. 633-2857.	A
Bus-Camper, 1966 Volkswagen, cabana, r/h, many extras, \$2,350. 324-7623.	A
Station Wagon, 1958 Chevrolet, V-8, r/h, p/s, rack, \$265. 479-5653.	A
House, 4-bdrm., 1 1/2 baths, bltins, block wall fence, dble. attach. gar., used brick fireplace, cpts., dps., 30 mins. from Norair, assume 5 1/4 FHA loan, \$22,500. 714-897-9075.	A
Washer, Kenmore, \$25. 329-9982.	A
Pickup, 1964 Chevrolet, 1/2-ton, V-6, r/h, stick shift, \$1,095. 324-7841.	A
Wiglet, medium brown, never worn, 9" long, \$7. 679-2319.	A
Hide-A-Bed, Simmons, full size, slip cover, \$80. 324-2992.	A
Surfboard, Jacobs, 9'9", \$80. 372-3827.	A
Station Wagon, 1956 Ford, \$145. 329-6690.	A
Washer, Lady Kenmore, auto., needs some work, \$10. 671-2776.	A
Bedroom Set, eastern-made, mahogany, full size bed, Mr. & Mrs. dresser, 2 end tables, \$175. 789-0936.	A
Mustang, 1965 convt., V-8, 225 h.p., factory air, p/s, wide-oval tires, many extras, \$1,995. 676-3087.	A
Dishwasher, G.E., portable, 3 yrs. old, stored & unused, \$75. 378-0603.	A
Vibrator, Sears, used less than 3 hrs., \$19. 676-0938.	A
Truck, 1962 Chevrolet, 1/2-ton w/Stahl Service body, new tires, valve job & major tune-up, \$995. 564-2263.	A
House, 4-bdrm., 2 baths, fam. rm., atrium, pool, all elec. kit., bltins, air cond., radiant heating, 5 1/4% loan, \$39,500. 714-637-4461.	A
Home, 3-bdrm., 5 min. from Norair, many extras, \$3,500 dn., 5 1/4% G.I. loan, \$24,400. 755-3676.	A
Ford, 1957, 2-dr. w/406 eng., 4 mag. racing whls., 14" Cragar w/slicks, custom steering whl., floor stick shift kit, many extras, \$300. 581-5208.	A
Dodge, 1967 Dart, p/s, 2-dr. h-top, r/h, \$2,400. 752-4576.	A
Mercury, 1956 h/top, good paint, need uphol., needs trans. work, \$60. 542-3626.	A
Chevrolet, 1959 Impala, big eng., 3-spd. floor shift, new trans. & brakes, \$225. 329-6174.	A
Washer, auto., 1962 Frigidaire, Imperial model, \$25. 675-8813.	A
Stereo Console, solid-state symphonic, walnut finish, 2 yrs. old, \$150. 393-8521.	A
Kitchen Sink, dble., white, \$5. 370-4326.	A
Guitar, elec., Tiesco Del Rey, 6-string, 1 pickup, \$20. 377-5853.	A
Refrigerator-Freezer Comb., General Electric, 14 cu. ft., rotary shelves, \$50. 454-7338.	A
Acreage, 10 acres, wooded, near Lassen National Park, low down pymt., \$2,000. 467-9812.	A
Bar, free-standing, walnut textured formica, 5' long, 2' wide, \$72. 372-9954.	A

For Sale	
Edge Trimmer, elec., \$15. 633-2395.	A
Air Conditioner, fits Dodge Dart 6-cyl., 225 Ranger eng., \$40. 372-5336.	A
Home, 3-bdrm., 2 baths, fam. room, htd. pool, decorated, landscaped, \$34,750. 431-0250.	A
Wheels, 4 '68 Corvette, covers & 4 G-70 wide oval tires, 15", 7" wide, \$180. 754-7861.	A
Baby Swing, 3 mo. to 18 mo., \$4. 755-7166.	A
MGA, 1957 Series 1500 sports convt., recent o/haul, \$300. 531-9974.	A
Car Cooler for Volkswagen, plugs into cigarette lighter, elec., \$10. 370-7702.	A
Water Softener, 4 yrs. old, \$20. 324-9130.	A
Snowmobile, 1967 Polaris Colt 140, 15 h.p. 300 cc Hirth eng., 1 1/2 hrs. total time, \$700; trailer, \$125. Box 403.	A
Wanted to Buy	
Hide-A-Bed, Riviera, queen or king size. 377-1344.	B
English Bulldog, must be healthy, alert, good disposition, papers not necessary. 805-498-2056.	B
Revolver, .41 mag., S & W, model 57 or 58, 4" or 6 1/2" barrel. 323-4257.	B
Fiat 600, 1959 for parts, condition immaterial. 377-6193.	B
Citroen, 2 C.V., 1961 to 1965, in good condition. 461-2503.	B
Drill Press, 14" or 15", good condition. 378-4654.	B
Closet, fairly large, portable. 644-3135.	B
Drone Engine, 4318A. 320-3158, 328-4992.	B
Bedroom Set, dble., maple, also dog house. 676-8833.	B
Hard Top for 1957 T-Bird w/portholes. 294-2014.	B
Western Saddles, adult, good condition. Box 404.	B
Amateur radio equipment, #SB10. Box 405.	B
For Trade	
Books of Blue Chip Stamps trade for S&H Green stamps. 378-3529.	C
Free (To Be Given Away)	
Cat, Persian, male, & 2 pr. of bantams chickens. 377-1404.	D
Rentals Offered	
Apt, 1-bdrm., cpts., dps., bltins, all elec., 10 min. to Nort. P.V., 20 min. to Norair, \$120 furn.; \$105 unfurn. 375-2091, 375-9397.	E
Apt, 2-bdrm., furn., washer, dryer, 4 blocks to Northrop, inc. utilities, \$150 mo. 833-2512.	E
Duplex, 2-bdrm., front, close to Norair, \$125 mo. 679-2456.	E
Apt, single, newly furn., utilities furn., lady preferred, \$60. 754-9866.	E
House, 2-bdrm., bltins, cpts., dps., fireplace & yard, \$150 mo. 372-5808.	E
House, 3-bdrm., 2 baths, close to Del Amo shopping center, \$225 mo. 372-9871.	E
House, 2-bdrm., den, corrals, in Malibu Canyon, \$185. 671-8401.	E
Apt, 1-bdrm., furn., all bltins, pvt. deck, lge. pool, sub. parking, near Northrop, \$140. 670-6084.	E
Cabin, Green Valley Lake, \$35 w/end, \$55 wk. 320-2002.	E
House, 2-bdrm., enc. yard, gar., cpt., dps., water paid, close to Norair, \$145 mo. 676-3142.	E
Apt, near King Harbor, cpts., dps., bltins, piped music, bltin vacuum, gar. w/storage cabinets, 1-bdrm., \$115 & \$120; 3-bdrm., 2 baths, \$165. 372-8835.	E
Rentals Wanted	
House, duplex or apt., have 1 dog & baby, near work preferred, also w/yard. 674-2074.	F
Child Care Offered	
Babysitting by 15 & 16 yr. olds, experienced, reliable, references, Torrance High School area, 50¢ hr.; 75¢ after midnight. 320-4726.	G
Child Care in my home, days only, infant to pre-school, reasonable. 371-3079.	G
Personals	
Flying Club, Torrance, wet rates, Cessna 150, 172 & Cardinal, \$8, \$10.50 & \$16, Luscombe, Mooney & K Bonanza, \$8, \$16 & \$21. 326-3213, 676-6138, 325-5288.	L
10-Year Reunion, 1958 Leuzinger graduates, in May, call 644-5302.	L
I wish to thank all my friends in Data Processing, Anaheim, for making my last day so pleasant. Thanks for the lovely gifts & cake. NORMA MURRAY.	L
Typing done in my home, term papers, theses, executive type, reasonable. 676-1475.	L
My sincere thanks to all my friends for making my last day at Northrop a memorable one. Also, for the wonderful gifts & the lovely party. VIOLA R. TIMMONS.	L
For Sale or Trade	
Boat, 14' aluminum, Lone Star, \$75 or trade for 12' aluminum cartop boat. 714-839-5730.	M
TV, color, Packard-Bell, 21", \$295 or trade for portable color TV. 376-3229.	M
Volkswagen Bus, 1964, \$900 or trade for car. 325-7605.	M
Lot, in Salton City, close to marina & shopping center, streets, utilities & sewer in, \$3,250 or trade for late model 3/4-ton Fleet-side Ford pickup & o/head camper. 532-7846.	M
Buick, 1962 Special, 2-dr., \$475 or trade for panel truck. 714-630-1914.	M

Rides and Riders	
Rides Wanted	
7 a.m. — 3:42 p.m.	
Glendale Blvd. & San Fernando Rd., Glendale. Richard S. Guevara, Norair ext. 2700, 247-5946.	
7:30 a.m. — 4:15 p.m.	
Marine & Highland, Manhattan Beach. L. Berg, Norair ext. 2763, 545-1662.	A
For Sale or Trade	
Rambler, 1962 American Custom, 2-dr., auto., r/h, \$425 or trade plus cash for late model station wagon w/air cond. 714-527-1201.	
House, 2-bdrm., cpts., dps., detached dble. gar., fenced, 50'x150', R-2 lot, \$18,000 or trade \$5,000 equity for good mobile home. 324-5422.	
Refrigerator, Servel, apt. size, 2 1/2 yrs. old, \$39 or trade for portable TV. 644-6198.	
Ford, 1956, \$125 or trade for Honda 50 or Yamaha. 672-3170.	

Winners Named From February Golf Tournament

Results are in from the February 18-hole golf tournament at Nortronics Hawthorne, played on the Green River course in Corona, and, of 60 who participated, 12 have placed in the winners' columns.

Honors for low gross for the day were split three ways between Dick Wood, Jim Rutkoskie and Fred Woods, each with a 76. Meanwhile, Bill O'Toole registered a 59 low net.

Best of the first flight was Ray Jackson with a 63, followed by Dave Krieghoff and Dick Wood with 65's. Second flight leader was Ed Kong who netted 64. Lou Villalba's 66 was second best, with Bill Burch and Bob Martin knotting for third, each with a 68.

Bill O'Toole figured again as he won the third flight, just as he did last month at Elkins Ranch. His 59 bested the second place 62 of Ray Flynn and the 63 of third place Mark Reid.

All scores are low net.

Gem, Mineral Club Schedules Movie

The NRC Gem and Mineral Club at Nortronics Anaheim will meet at 7:30 p.m. Monday at the NRC Clubhouse in Fullerton.

Highlight of the evening will be the screening of a film on Intarsia, an art form similar to mosaic pictures, but done in the medium of gem rock.

Nortronics employees are reminded that the Club has a well equipped lapidary shop with instructions available for beginners. Unusual field trips and programs of special interest are featured throughout the year.

Carol Brittenham, Club commissioner, may be contacted on Anaheim ext. 495 for further information.

Budgeting, Costs Topic at Seminar

"Budgeting and Costing in Data Centers" was the topic of an address by S. S. Lotz, director, Northrop Data Processing Operations section, to the American Management Association's three-day seminar in Los Angeles last week.



## Secretarial Group Plans Member Drive

Northrop Ventura secretaries with at least two years of experience in secretarial work have been invited to an "Introduction to the National Secretaries Association" meeting, to be held next month.

The meeting will begin at 6:30 p.m. on March 14 at the home of Mrs. Billie Linebarier, 2950 Raleigh Place, Thousand Oaks. Mrs. Linebarier is one of three Northrop Ventura members of the Los Robles Chapter of the NSA. The others are Tammy Tracy, first vice president of the chapter, and Jeannine Childers.

"We'd like to get as many Northrop Ventura secretaries as possible to come to the meeting," Mrs. Tracy said, "to explain to them what the NSA is, what the benefits are in belonging to it, and why they might like to be a part of it."

The NSA is an international organization with more than 24,000 members in nearly 600 chapters. It was founded in 1942, and now has chapters in Canada, Mexico, Panama, Finland, France, Brazil and Argentina, in addition to the United States.

Its purpose, Mrs. Tracy said, "is to elevate the standards of the secretarial profession. We are a nonprofit, nonsectarian and nonpartisan association."

Additional information may be obtained by attending the meeting or by contacting Mrs. Tracy on ext. 347.



**SIGNS OF SAFETY**—Two dozen safety posters such as these have been on display in recent weeks in the Northrop Ventura cafeteria. The posters were prepared by high school students in the San Fernando Valley as part of a nationwide contest sponsored by the Knights of Pythias, a men's lodge organization.



Morris Schechter, a Northrop Ventura employee and a member of the San Fernando Lodge of the group, brought the posters to work to display them. All the posters urge safe driving. Winners receive cash awards. Other Ventura employees in the club are Paul Friedman, Ray Bourland and Harold Shuman.



**NINE YEARS OLD**—The rarest of all birthdays is one which falls on February 29, Leap Year Day. It's so rare that Northrop Ventura's Barbara Fuller, who will officially celebrate her ninth birthday tomorrow, has only met two other persons with February 29 birthdays. The unique birthday prompted Doug Finch of Graphic Services to design this card. Mrs. Fuller's daughter will celebrate her eighth birthday next month. That means the daughter will be 12 shortly after her mother celebrates her 10th birthday—four years from now. Mrs. Fuller is a business forms analyst at Ventura.

## RADIATION RESEARCH

### The Pocket Mouse—Small, but Important

The tiny pocket mouse doesn't look very important. It seldom weighs as much as half an ounce, never makes a sound, and doesn't even need drinking water to survive.

But this little rodent, called *Perognathus longimembris*, has one very unusual—and very significant—characteristic. It can withstand higher doses of radiation than any other mammal, including man.

This fact makes the pocket mouse, found in deserts in California, Arizona and Mexico, significant in research. One scientist who has studied the pocket mouse for several years is Dr. Jerome J. Gambino, a research radiobiologist and a member of the senior technical staff of Northrop Corporate Laboratories' Life Sciences Laboratory.

Dr. Gambino, who has been with Northrop for nearly six years, has published five papers on the pocket mouse; three on its unique radiobiological qualities, and two on its breeding. Four of the papers were co-authored by Page Hayden; two, by Dr. Robert G. Lindberg. He also has



Dr. Gambino

traveled as far as Italy, speaking on the rodent's resistance to radiation.

Dr. Gambino has explained that the pocket mouse has a unique cellular renewal system. Its cells are resistant to damage, and, even when they are damaged, they are renewed more quickly than those of other mammals.

"The slow death rate of the mouse's blood cell structure and its rapid renewal power make it a good subject for application in such fields as radiation therapy," Dr. Gambino said.

"A doctor administering radiation in the treatment of cancer,

for example, wants to slow down the loss of healthy tissue in his patient, and quicken the rate of cellular renewal. The pocket mouse has these characteristics, and this is one reason why we're interested in studying them."

In a 1965 paper, "Radiobiological Studies on *Perognathus*, a Small Desert Rodent," Dr. Gambino said that the mouse's ability to withstand radiation "appears to be related to unusual capabilities within specific regenerative systems . . . the same genetic makeup may also be expressed as rapid regeneration capability both in marrow and in gut epithelium (stomach lining)."



**SMALL, BUT IMPORTANT**—This is the pocket mouse, which weighs less than one-half ounce but can withstand greater doses of radiation than any other mammal, including man. Dr. Jerome J. Gambino, a Northrop Corporate Laboratories scientist, has studied the mouse for several years.

## CAREERS

(Continued from page 1)

department stores, a savings and loan firm and many small businesses.

Seniors from 16 high schools in Ventura County are scheduled to visit the Career Center during the week.



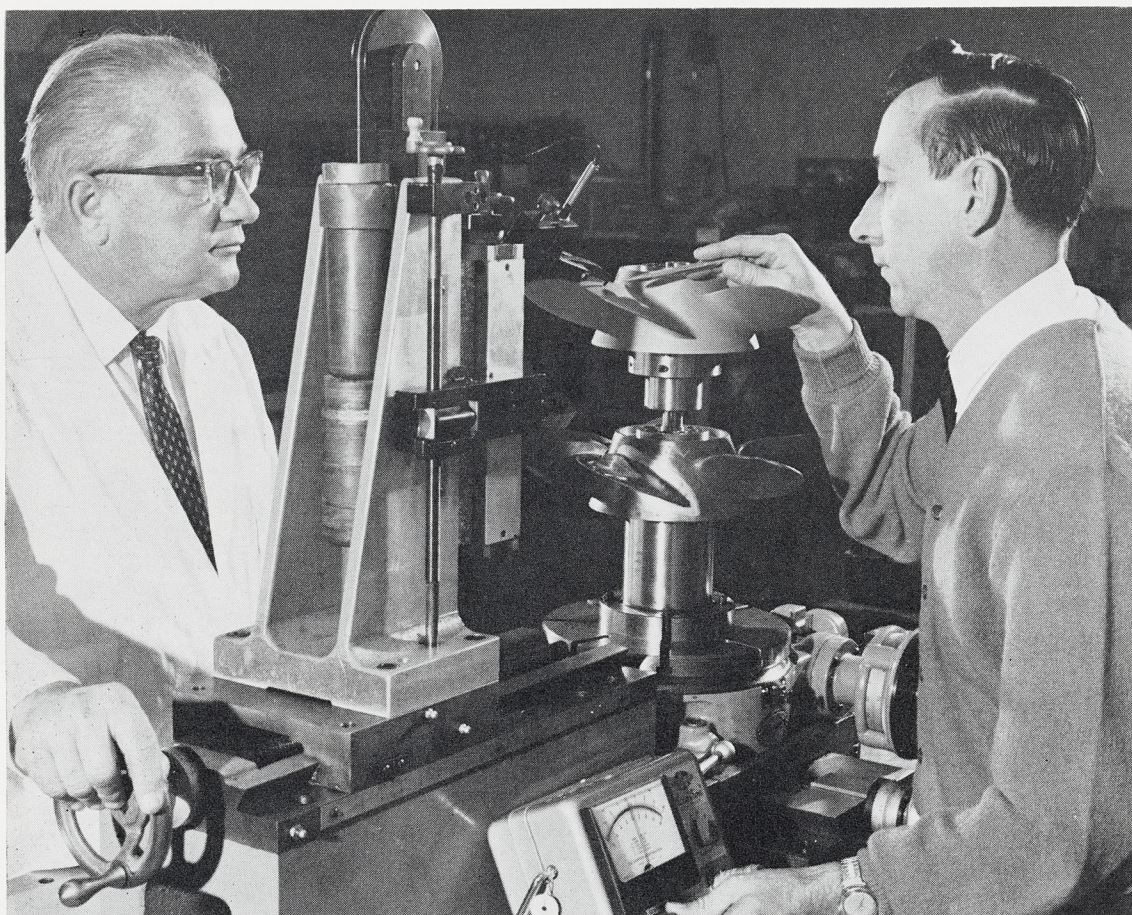
# NORTHROP NEWS

NORTHROP VENTURA

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March 13, 1968



**PRECISION WORK**—The U.S. Navy's Walter Krupa (right) instructs Northrop Ventura's Frank Russo on the operation of a precision contour gage. Mr. Krupa, an engineering technician and an authority on torpedo propellers,

spent a week training personnel at Ventura. The gage is used in the inspection of propellers for the Mark 30 Mobile Anti-Submarine Warfare Target (MASWT).

## Underwater Target Propellers Approved

Quality Control officials at Northrop Ventura have taken a major step on the Mark 30 Mobile Anti-Submarine Warfare Target Program, with the receipt and inspection of two sets of propellers for the vehicle.

Inspection is accomplished through the use of a precision contour gage, on loan to Ventura from the U.S. Naval Ordnance Station at Forest Park, Illinois.

Leonard Wolf, who is in charge of gaging at the Forest Park facility, recently sent Engineering Technician Walter Krupa, an authority on torpedo propellers, to Ventura, to train Quality Control personnel in the use of the gage.

"As a result of their coopera-

tion and assistance," said Tony Fortuna, Ventura Quality Control Program supervisor, "we now have two complete sets of propellers for the Mark 30, and our inspection procedures are established for the remainder of the program."

Mr. Krupa, who spent a week at Ventura, has designed and built master propellers for the Navy's Mark 37, 44, 45 and 46 targets, as well as for the Mark 30. He also developed propeller inspection techniques. While at Ventura, Mr. Krupa trained personnel in the use of the precision inspection contour gage.

Propellers for the Mark 30 are being built for Ventura by Paragon Tool Engineering, a Pacoima firm.

## Fifteen Complete Supervision Course

Fifteen men have completed Northrop Ventura's first in-plant course in basic supervision techniques.

The 12-hour class was presented two hours each week for six weeks, covering topics including the functions and responsibilities of supervisors, communications, instruction and methods improvement. The class was conducted by Professional Development and Training. A second class is scheduled to begin later this month.

Completing the course were Ted Anderson, Santiago Colunga, Americ Chatelain, Gerald Siebers, Fred Longo, Stanley Nutter, Roy Kreske, Frank Wilem, William Gavan, Howard Snow, Milton Lanning, Vinton Hunnicutt, Charles Mitman, Carlo Mortelaro and Thomas Johnson.

## Service Pins Awarded

Thirteen Northrop Ventura employees, headed by 20-year man Sam Mannino, became eligible for service awards this month.

Mr. Mannino, a developmental mechanic in Metal Fabrication, joined Northrop Ventura on March 10, 1948, as an experimental mechanic.

Three employees received 15-year pins, six earned 10-year pins, and three were presented five-year awards.

Fifteen-year pin recipients were Jack Calder, Welko Gasich and William E. Green.

Receiving 10-year awards were John Bonar, Carol Boyer, Michael Cefaratti, Thomas Lucero, Loris Malcolm and Helen Wright.

The five-year men are Edward Malone, Richard Martin and Robert Prieve.

## Parawing Test Program To Begin at El Centro

Small-scale prototypes of Northrop Ventura's single and twin-keel Parawings will be tested under three-step reefing conditions for the first time next week.

A program of 16 tests—utiliz-

ing various altitudes, air speeds and payload weights—will begin on March 18 at the El Centro Naval Test Facility.

Carey Buhler, Systems Integration project engineer, said the Parawings will be dropped in a reefed state. Three reefing lines will be cut in a pre-planned time sequence, and the Parawing will automatically assume a "flying trim" position for its gliding descent to the desert floor.

In January, a preliminary test series was held at El Mirage Dry Lake. In those tests, the Parawings were dropped from a helicopter in an open, unreefed condition.

Ventura is building and testing the single and twin-keel Parawings for the National Aeronautics and Space Administration's Langley Research Center.

At El Centro, eight tests will be conducted with each Parawing, Mr. Buhler said. Payload weights will be 195, 254 and 500 pounds. The altitudes will be 6,000, 15,000 and 21,000 feet. And the air speed will vary from 100 to 180 knots per hour.

At El Mirage, the Parawings were dropped from an altitude of 3,000 feet with as little ground speed as possible.

The El Centro test program is expected to take at least 10 weeks. Dillon Cox will be lead test engineer.

The single-keel Parawing has a keel length of 24 feet. The twin-keeled version has a keel length of 22.7 feet.

Present plans call for the development of Parawings which will be able to support payloads of up to 15,000 pounds.

## Northrop Receives Navigation Contract

The Navy Air Systems Command has awarded Northrop Northrop an important new contract for navigation equipment.

The latest contract, announced last week in Washington by Representative Charles H. Wilson of Los Angeles, is for \$1,024,240 for the design and development of two engineering models of the airborne Omega automatic receivers.

(See NAVIGATION, page 6)

## Corporation's Earnings Rise 21 Per Cent

Northrop Corporation recorded a 21 per cent increase in earnings for the six months ended January 31, President Thomas V. Jones reported last week.

First half earnings were \$6,542,000, compared with \$5,395,000 for the first six months of last year. Per share earnings for the period were \$1.39 on an average of 4,520,000 shares outstanding, compared with \$1.27 per share on an average of 4,215,520 shares outstanding a year ago.

Sales in the first half were \$231,804,000, up 9 per cent from the \$213,244,000 in sales recorded for the same period last year.

Backlog on January 31 was \$722,407,000, compared with \$569,000,000 a year ago and \$608,000,000 last October 31.

"Looking ahead, we expect another year of record earnings and sales for the company," Mr. Jones said. "Present indications are that total net earnings will be substantially higher than last year, on sales somewhat above the previous year," he said.



**PLANNING A CAREER**—Northrop Ventura's Johnnie Via (left) and Bob Hutton talk with Ventura County high school students at the annual Career Planning Center, held this month

at the Ventura County Fairgrounds. Students from 16 high schools and several junior colleges visited the center, learning of career opportunities in various businesses.



## Executives Complete Management Course

Three months of concentrated study by 14 Northrop executives—who volunteered for an advanced management development course—has concluded with praise from Northrop President Thomas V. Jones for the participants' "extraordinary effort and sacrifice."

The principal speaker at graduation ceremonies, Mr. Jones emphasized the "critical importance in management of taking advantage of change."

"Management must be able at all times to recognize change, to adapt to change, and to take advantage of the opportunities it brings. More than that, in our business we constantly initiate

change," he said.

The advanced management course, administered by the Northrop Management Development office, emphasized the interactions of economic, political and social forces on business and, subsequently, the work of a contemporary professional business manager.

All of the graduates, who represented the Corporate offices and Nortronics and Ventura Divisions, were of a single voice when it came to evaluating the course.

"It was an outstanding experience," according to Welko Gasich, vice president and general manager of Ventura Division. "The course makes you aware of the socio-political-economic forces of the business manager."

Jim Willson, Northrop vice president—Finance, said the studies helped "broaden my understanding of the interrelationship between the various institutions under the free enterprise system and changes in their relative importance, as well as improving my management concepts, such as differentiating between integration and coordination."

Those completing the course, in addition to Mr. Willson and Mr. Gasich, were: Larry Carroll, Ben Collins, Rex Fairless, Tom Flannigan, John Flores, M. A. Maurer, H. E. Riggins, Walt Sternadel, Wes Steyer, and Bob Young, all of the Ventura Division; Don Lewis of Nortronics; and Tom McDougall of Northrop International.

### Travel Clubs Plan Las Vegas Weekend

Reservations are now being accepted throughout Northrop facilities for the April 26-28 "Las Vegas Weekend" sponsored by combined NRC Travel Clubs. They may be made through Personnel Activities.

The cost is \$37.50 per person and includes roundtrip bus transportation and two nights at the Hacienda Hotel.



MANAGEMENT DEVELOPMENT—Northrop President Thomas V. Jones (left) congratulates John Flores, chief engineer at Northrop Ventura, during ceremonies honoring

graduates of Advanced Management Development course. Mr. Flores was one of 14 top level managers completing the three months of concentrated studies.

## Employee's Son Receives Bronze Star

The son of a 14-year Northrop employee has been decorated with the Bronze Star while in action in Vietnam.



Spec. 4 Baker

received in combat last August and September.

He was awarded the Bronze Star "in connection with ground operations against a hostile force in the Republic of Vietnam."

"His devotion to duty," a certificate accompanying the medal said, "his loyalty and meticulous attention to detail are in keeping with the finest traditions of the U.S. Army, and reflect great credit upon himself, his unit, the 25th Infantry Division and the military service."

Spec. 4 Baker graduated from Lakewood High School in 1966 and entered the Army in July of that year. He arrived in Vietnam in January 1967.

## NRC Schedules Disneyland Night For May 25

Here's the date—Saturday, May 25—for Northrop Recreation Clubs' annual entertainment "buy of the year," Northrop Night at Disneyland.

All of the features of this fabulous funland are reserved just for Northrop families from 8 p.m. to 1 a.m. The price, including admission, is only \$3.75 per person.

Tickets are now on sale at regular Personnel Activities outlets.

### NRC Gets Ice Show Seats

Northrop Recreation Clubs have reserved 1,000 seats, the "best in the house," for the 5 p.m. May 5 performance of Ice Capades of 1968 at the Los Angeles Sports Arena.

Regular \$5 reserved seats will be sold to Northrop employees for \$3.50 each beginning March 20 at all ticket outlets.

## Four To Take Part in AIAA Flight Test, Support Meet

Four Northrop men will participate this month in the American Institute of Aeronautics and Astronautics' second annual Flight Test, Simulation and Support Conference.

The meeting will be held March 25 through 27 at the International Hotel in Los Angeles.

Stan Racisz of Norair's Research Laboratories is administrative chairman for the conference, and Walter Watson of Research Laboratories Design is facilities chairman.

Richard Hachten, manager of Public Relations at Norair, is public relations chairman, and Herbert Cooles, a Norair engineering specialist, is co-chairman of a March 26 seminar on manned and unmanned space systems.

T.W. Knacke of Northrop

## Employees Return From Japanese Good Will Trip

Two ladies from Nortronics have returned from a trip to Japan, where they were good will ambassadors for a day to the City of Ichikawa.

Sophia Adams and Martha Smyers, electronic assemblers at Nortronics Hawthorne, represented the City of Gardena on a sister city tour of Ichikawa. They visited the city also on behalf of the Gardena Valley Artists' Association.

"One of the highlights of our day," said Mrs. Adams, "was a ride in the chauffeured mayor's car along with the mayor to the city hall for a lovely tea ceremony." Earlier in the day the ladies had visited the First Ichikawa School, exchanged gifts with ladies of the Japanese PTA at the school, been treated to tea and an art show, and generally received as royalty.

"We thought we were just going to stop by for an hour or so and say 'hello,'" recalled Mrs. Smyers, "but it turned into an all day event, and we'll never forget it—especially the authentic dinner at the Japanese tea house."

Ventura was a participant last week in another AIAA-sponsored event, the Technology for Manned Planetary Missions Meeting.

The three-day conference took place at the Fontainebleau Motor Hotel in New Orleans.

Mr. Knacke was a panelist in a March 4 discussion on entry and landing mission requirements.

Dr. Y.P. Gupta, director of the Materials Sciences Laboratory of the Northrop Corporate Laboratories, was a colloquium speaker in Thousand Oaks last week.

Dr. Gupta discussed "Impurity Diffusion in Liquid Metals," speaking at the Aerospace and Systems Group Science Center of North American Rockwell.

The Southwest Section of the American Vacuum Society has scheduled three meetings for the next two months. Group members will meet at 6 p.m. March 20 in the Cockatoo Restaurant in Hawthorne. Research scientist Karel Urbanek will discuss "Recent Development in Achieving and Measuring Very Low Pressures."

Group members will meet on April 17, also at the Cockatoo Restaurant, to hear Richard Riegert, president of Sloan Instruments, discuss "Reasons and Methods for the Control of Vacuum-Deposited Thin Films." Reservations may be made for either meeting by calling (213) 865-0157 or (714) 776-2810.

The group's annual Symposium and Equipment Show has been scheduled for May 1 through 3 at the Grand Hotel in Anaheim.

Howard H. Haglund, manager of the Surveyor Program for Jet Propulsion Laboratories, will be guest speaker at a May 2 banquet.

### 'Sixpence' Tickets on Sale

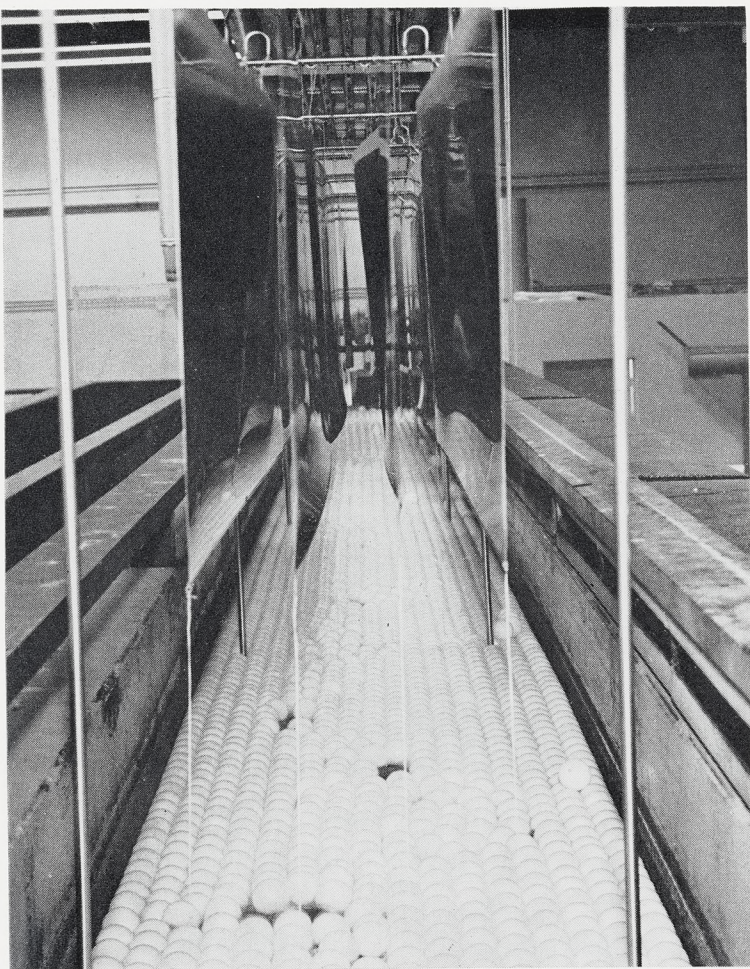
Discount tickets are still available at Northrop outlets for the 5 p.m. April 13 showing of the motion picture musical "Half a Sixpence" at Grauman's Chinese Theater, Hollywood.

Regular \$3 reserved orchestra seats are available for \$2.40.



GARDENA GOES TO ICHIKAWA as Martha Smyers (center) and Sophia Adams visit a flower arranging class in that Japanese city with their interpreter, Hiroshi Araoka. The ladies, both electronics assemblers at Nortronics Hawthorne, spent the day as good will ambassadors as part of the Gardena-Ichikawa Sister City Program. They also toured on behalf of the Gardena Valley Artists' Association.





**PING PONG, ANYONE?**—Hollow Polyethylene spheres, 3,500 of them, provide blanket-like covering to retard evaporation of de-ionized water. Poised above tanks are titanium and aluminum sheets being processed before assembly into sandwich-like floor paneling for the 747 jetliner at Northrop Architectural Systems.



**PROOFING PROCESS**—Larry Baker observes progress of tensile test being applied to sample of floor material. Tests are made of each "lot" of panels cured. Sample on table surface shows thin sheet that has been stripped away from polyvinyl chloride foam core.



**PROTECTIVE FINISH**—Supervisor Tom Dennis shows how fiberboard cut to exact size of finished panels is applied prior to shipping. Fiberboard remains in place during aircraft assembly, is removed when carpeting is installed, to insure unmarred surface.

## Northrop's 'Nor Flor' To Provide Bonded Panels for Boeing 747

Northrop Architectural Systems (NAS) early this month made initial deliveries of a unique new type of floor it is manufacturing for the giant new Boeing 747 jetliner.

Highly durable and resilient, the 0.4-inch-thick flooring is fabricated in sandwich fashion with titanium or aluminum sheets bonded top and bottom to a fire-resistant polyvinyl chloride foam core.

It is delivered to Boeing ready to install as fully interchangeable planks or panels in various shapes, ranging in size from less than three to more than 40 square feet each.

Northrop calls the material Nor Flor.

Approximately two-thirds of the panels are titanium-covered. They are used in high wear areas—aisles, galleys, restrooms—of the 747. Aluminum panels cover low wear areas such as those under passenger seats. Both offer attractive weight reduction

over conventional metal-covered balsa wood now used for most commercial aircraft flooring.

NAS is fabricating 204 panels to comprise 2,127 square feet of floor in each 747. Nor Flor will be used in passenger and baggage compartments of sections 42 and 46 and the 747 stateroom.

D. B. McFarland, NAS president, selected Loyal Massey to head the Nor Flor production team. Mr. Massey assigned key responsibilities to: Bill Rideout, Quality Control; Howard Cornelius, Manufacturing Control and Materiel; and Oscar Crague, Production Operations.

A 50,000-square-foot NAS facility in Long Beach has been set up and equipped exclusively for Nor Flor production. Concurrent with initial production, NAS is working to further automate its operations.

Tools required for setting up saws, drilling holes or making cutouts are made with numerical control tapes to insure dimen-

sional compatibilities.

Northrop Norair's Engineering organization provided initial panel design, while Manufacturing Research and Development assisted in developing tools and processes for working with and bonding the materials combinations.

Metals arrive at NAS in sheets or coils, the foam core in sheets. Titanium used is .010 and .005 inches thick, aluminum .016 and .010 inches thick on top and bottom surfaces, respectively.

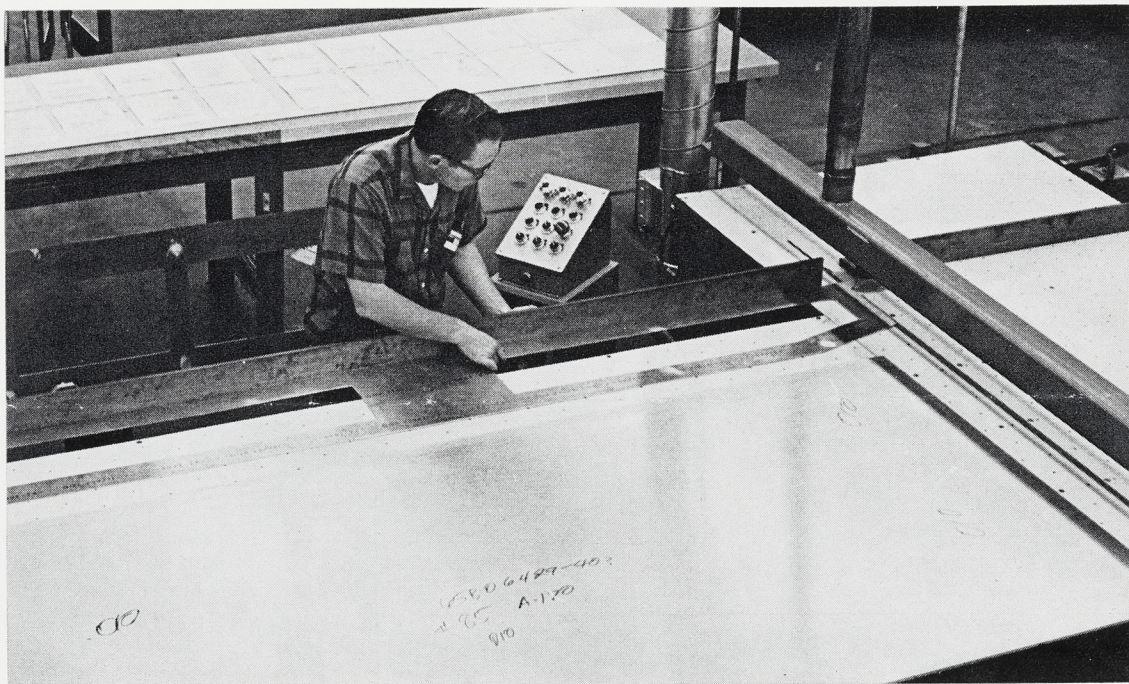
By comparison, bond paper is .004 inches thick.

Metal and core are prefit before the metal is cleaned and processed in 10 special tanks, each 33 feet long, two feet wide and seven feet deep.

An environmental room provides "white glove" conditions for the application of adhesives, assembly and pinch-rolling the combination together.

The resulting assembly, called

(See NOR FLOR, page 5)

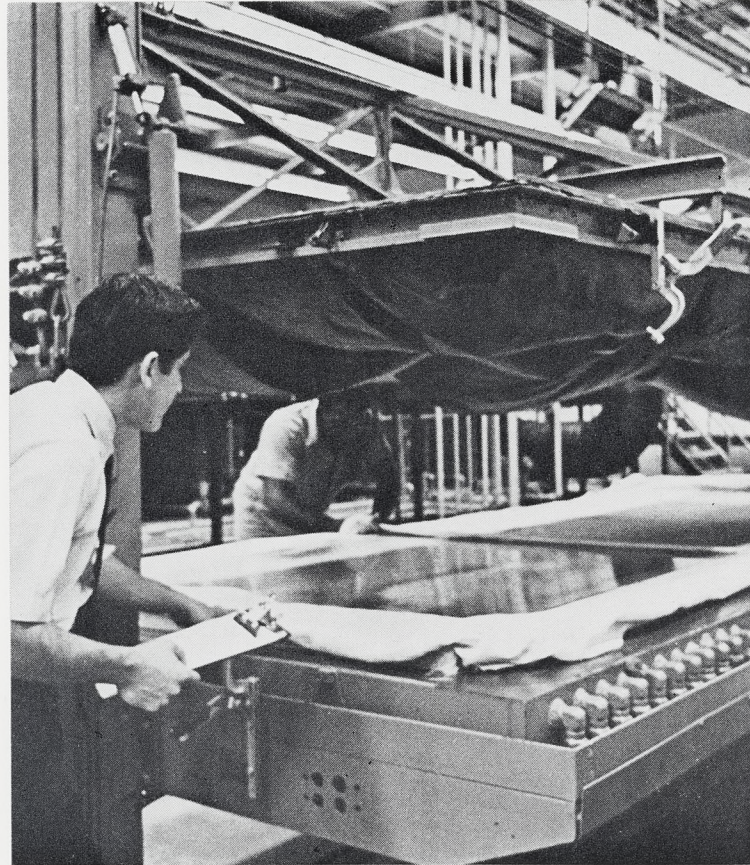


**READY TO CUT** — Tom Crunk adjusts unique table surface prior to cutting aluminum-covered floor panel material. Template and air cushion are part of this unit which

sets, holds and cuts in one operation. Titanium-covered panels require different cutting techniques with carbon steel saw blades. Production is centered at a Long Beach facility.



**TEMPLATE-TOPPED** aluminum panel is drilled and countersunk in one operation by James Sparks. Drilling is a critical step.



**COLD BOND STEP**—Supervisor Pete Medina (left) looks on as Willie Nobles adjusts bleeder cloth around assembled floor panel material in cold bond fixture. Under vacuum, panels are cured prior to cutting, drilling and finishing. Panels may be stacked eight high for this operation.



## First Aid Training Works For Norair's Gene Boggess

Over the past year more than 400 Northrop Norair employees have received in-plant instruction in mouth-to-mouth resuscitation and other first aid techniques.

One of those trainees, Gene Boggess, a research assistant in Research and Development Laboratories, has twice employed this technique to revive individuals in emergency situations.

The first occasion involved an infant girl, the surviving member of a set of premature twins, who lived next door. Mr. Boggess was

summoned by an anxious mother after the youngster apparently strangled on milk. Although the youngster was rapidly turning blue from lack of air, Mr. Boggess was able to restore normal breathing. The youngster is a healthy nine-month-old today.

After serving as coordinator of the annual Centinela Valley Fine Arts Association Musical Festival, Mr. Boggess and his wife were in the parking lot when they came upon a middle-aged man who had fainted and was having difficulty breathing. Mr. Boggess again applied his knowledge to revive the victim.

Mr. Boggess' case was unusual in that he had attended two in-plant training classes on mouth-to-mouth resuscitation. One as safety representative of his department, one as an NRC Safe-T-Man.

Norair's Medical group conducts the in-plant training with Maurice Rosen, chief laboratory technician, and Dr. Richard Krebsbach, chief, Medical group, as instructors.

It has been given to all auxiliary firemen, to numerous Maintenance and Construction personnel and selected safety representatives from many organizations and functions, including facilities located off-site from Hawthorne.

### Airplane Club To Meet

Northrop's Model Airplane Club will meet at 7:30 p.m. March 20 at NRC Clubhouse, Hawthorne, to discuss new club bylaws and flying field rules.

Additional information may be obtained by contacting Commissioner J. W. Headley on Norair ext. 2342. The club held its first contest of the year last Sunday.

### QC Talk Scheduled

E. C. Bennett, Norair chief of Quality Engineering, will be the featured speaker tonight at a meeting of the American Society for Quality Control, Valley Section.

Mr. Bennett is a fellow in the society and a founding member who has held numerous local and national Society offices.



**SAFETY REMINDER**—Norair's Maintenance and Construction personnel are constantly reminded of safety items available for their use as they pass this display in a main thoroughfare. Supervisors give brief lectures weekly, selecting a new piece of equipment to discuss, including its use, application and protection.



**VISITING JOURNALIST**—Giuseppe D'Avanzo (left), one of Italy's leading aerospace editors, prepares to take his first flight in a Northrop-built F-5 with Northrop pilot Dick Thomas

(center). At right is Captain Riccardo Durione of the Italian Air Force, who was interpreter. Mr. D'Avanzo visited several Northrop West Coast facilities.

## Grohe, Ferguson Named To New Key Positions

L. R. Grohe, who has successfully headed the Precision Products Department of Nortronics at Norwood, Massachusetts, for the



Mr. Grohe



Mr. Ferguson

past four years, has been appointed vice president of the Military Division of the Hallicrafters Company, Northrop's Chicago-based subsidiary.

Frederick Stevens, vice president and Nortronics general manager, has announced that D. N. Ferguson will succeed Mr. Grohe

as vice president and manager of the Precision Products Department. The change will become effective March 18.

Mr. Ferguson, who has been with PPD for 11 years, had been deputy manager-Operations until his promotion.

Mr. Ferguson graduated from Northeastern University with a bachelor of science degree in physics in 1952.

### Bridge Club Plans Weekly Tournaments

Duplicate bridge competition for regular members and newcomers is featured by the NRC Bridge Club at regular meetings held at 7:15 p.m. the first and third Fridays and the second and fourth Tuesdays at the NRC Clubhouse, Hawthorne.

Prizes and trophies are featured for games and tournaments and refreshments are served nightly. There is no charge.

### NRC Slot Car Club To Hold 'Grand Prix'

The NRC Model Slot Car Racing Club will stage a gala "Grand Prix" race for 1/24th scale cars at 5 p.m. March 23 at the Revell Raceways, 6840 La Tijera Blvd., Los Angeles.

No advance registration is required.

Ribbons, trophies and special prizes will be presented. Car owners may contact NRC Commissioner Brian Lauffer at ext. 1060, Norair, to obtain cards good for one-half hour of free practice time prior to the event.

Events scheduled include time trials, consolation races, semi-final and main events.

### Gem Trip Planned

Northrop Gem and Mineral Club plans a field trip March 16-17 to the Last Chance Canyon area near Red Rock Canyon.

Camp will be established in an area normally accessible to conventional vehicles.

Club officials said many types of minerals in the area are desirable for collectors. Among them are petrified wood, agate, jasper, opal and placer gold.

## Travel Club Schedules June Caribbean Tour

Northrop Travel Club has now made firm reservations for a Caribbean Holiday group tour to depart June 8 and return June 23.

This 16-day excursion will include stops at New Orleans and Miami, the Bahamas, Puerto Rico, the Virgin Islands and several points in Jamaica.

The tour cost is \$666 per person and includes jet flights, air conditioned hotel accommodations, plus an assortment of other features, including an average of two meals per day throughout the tour.

An initial organizational meeting is now set for 8 p.m. Friday in Room 4, Hawthorne Municipal Airport Building just north of the NRC Clubhouse in Hawthorne. Representatives of the tour agency will be on hand and a film of the area to be visited will be shown.

Tour brochures will be available at Personnel Activities outlets within a few days.



**BRIEFING AT NORAIR**—The commander-in-chief of the Chinese Air Force, General Lai, Ming-t'ang, accepts a model of the Northrop F-5 tactical fighter from F. W. Lloyd, vice president and Norair general manager. General Lai and party visited Norair for briefings and tour of Palmdale Facility as part of a nationwide tour.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

**For Sale**  
T-Bird, 1960, under 10,000 miles on rebuilt eng., p/s, p/b, \$550. 377-5853. A  
Pups, ¾ German shepherd, ¼ huskie, \$20 female; \$25 male. 547-1047, 375-9397. A  
Chevrolet, 1964 Impala, p/s, auto. trans., new tires, \$1,400. 679-2456. A  
Cadillac, 1961 deVille, full power, 55,000 miles, new w/s/w tires, \$1,195. 674-0852. A  
Chevelle, 1965 Malibu 2-dr. h/top, V-8, auto., p/s, \$1,450. 714-539-2518. A  
Mini-Bike, 8 h.p., lights, horn, dual tanks, racing seat, \$158.50. 393-5649. A  
Watch, ladies' Hamilton, \$195. 675-7971. A  
Soda Fountain or bar, soda water & 3 containers for mix, \$150. 421-3818. A  
Chevrolet, 1958 Impala 2-dr., 348 cu. in., auto. trans, r/h, p/b, p/s, p/w, \$275. 676-9736. A  
Volkswagen, 1962 convt., rebilt. eng., new brakes, clutch & 4 tires, solid state radio, \$900. 478-7100. A  
Platform Rocker, maple, green frieze, \$20. 676-5929. A  
Sunbeam Tiger, 1965, V-8, 4-spd., \$1,995. 672-1683. A  
Boat, 14', fiberglass, 30 h.p. Evinrude motor & tilt trailer, many extras, \$450. 371-5193. A  
Lots, 12, lake view, west end of Lake Isabella, small dn., \$1,650 & \$2,200. 373-1932. A  
Typewriter, Royal portable w/full size features, inc. carrying case, \$50. 374-0178. A  
Mustang, 1966 h/top, 8-cyl., Cruise-O-Matic, r/h, p/s, console, \$1,900. 324-7984. A  
Ski Boat, 14' w/283 Chev. eng. & trailer, \$600. 677-5240. A  
Falcon, 1960 Ranchero, 6-cyl., stick, \$275. 674-8534. A  
Fishing Boat, 10', wood & fiberglass, \$65. 327-4585. A  
Stove, gas, apt. size, 4-burners & glass in oven door, \$20. 645-1520. A  
Boat, 14' Glasspar w/new 40 h.p. Johnson, elec. start, trailer & spare tire, \$975. 714-847-0648. A  
Tires, Allstate Radial, 7.75x14, 4, 1,000 miles on them, \$120. 675-0860. A  
Razor, Sunbeam Shavemaster, elec., late model, \$14. 378-5175. A  
Precision Tools, machinist's, mics, Verniers, gauges, calipers, drafting instruments, 1 oak tool box & 1 steel, \$250. 631-3627. A  
Freezer, 5', 5-shelf, \$45. 326-7305. A  
Mercury, 1966 Monterey, 2-dr. h/top, p/s, Mercomatic, r/h, \$2,195. 325-0801. A  
Projector, 8mm Keystone, K109, \$30. 675-1378. A  
Mercury, 1957, 4-dr., r/h, \$150. 679-7840. A  
Hot Plate, 2-burner, w/adjustable heat control, \$6. 826-3061. A  
Sectional, 3-pc., black, \$75. 327-5747. A  
Trailer, at Mammoth Mtn., 33', completely furn., \$495. 545-6114. A  
Silverware, sterling flatware, service for 8, 51 pcs., provincial pattern, Towle mfr. about 1900, \$150. Box 501. A  
Hearse Chassis, 1954 Packard, 175" whl. base, newly rebilt. Lincoln eng., p/s, p/b, many extras, \$850. 676-3095. A  
House, in Palmdale, 5-bdrm., fam. rm., 1 1/2 baths, lge. kitchen, dble. gar., 2 patios, fenced back yd., 4 1/2% G.I. loan, \$3,000 dn., or consider land for equity, \$18,500. 805-947-6754. A  
Camper, 6' Chevrolet bed, \$125. 867-2549. A  
Ski Pants, boy's size 10, \$8. 329-3152. A  
Windows, steel casement, 3 sizes, 2 of ea., \$59, or sell separately. 328-1520. A  
Bicycle, boy's 20" Huffy, training wheels, \$18. 714-673-0244. A  
Station Wagon, 1961 Rambler Ambassador, r/h, p/s, p/b, fact. air, \$425. 769-3345. A  
Sectional, 3-pc., sandalwood, 2 yrs. old, \$100. 805-647-3447. A  
Hi-Fi set, Jensen 3-way speakers, Heathkit amplifier, Eico FM tuner, Bogen turntable, \$60. 714-892-5801. A  
Motorcycle, Honda 150, \$250. 325-3724. A  
Lot, over 1/2 acre, near Lake Isabella, electricity, \$2,500. 714-532-1361. A  
Wig, brown, med. length, case inc., \$70. 326-4710. A  
Porsche, 1959 convt., radials, \$1,450. 377-8731. A  
Racing Slicks, 6 Goodyear Blue Streak, 11:00x 16, \$30 ea. 676-2162, 679-7230. A  
Acreage, 2 1/2-acre, farmland near Lancaster, \$1,500 dn., \$50 mo. inc. 6% interest, \$5,500. 375-7130. A  
Buick, 1966 Riviera, p/s, p/b, p/w, air cond., stereo tape, deluxe radio w/vibrasonic, auto. trans., \$3,330. 773-4013. A

**For Sale**  
Washer, Kenmore auto., 3-cycle, top load, \$25. 679-0980. A  
Oldsmobile, 1961 2-dr. h/top, p/s, p/b, new tires, rebilt. auto. trans., \$375. 679-2041. A  
Surfboard, Bing, 9'4" custom, \$60. 675-2331. A  
Station Wagon, 1955 Chevrolet Nomad, rebilt. eng., new tires, chrome whls., \$550. 675-5001. A  
Ford, 1938 w/'62 Chev. eng., 283 4-barrel, solid lifters, cam, 3-spd. Ford trans., \$300. 328-2287, 370-0039. A  
House, 3-bdrm., 1 1/2 baths, cpts., dps., alum. siding, corner lot, new paint in & out, \$16,000. 805-942-4217. A  
Building Lot, view o/looking Lake Elizabeth, on paved street, elec. & water, 10% dn., \$4,150. 947-8389. A  
Condominium Apt., 2-bdrm., den, gar., pool & rec. room, \$35,950. 377-7460. A  
Radio & Electronic Equipment, \$350. 676-2076. A  
Piano, ebony, baby grand w/bench, \$550. 597-1519. A  
Cutlass, 1963 F-85 coupe, r/h, good tires, auto. trans., \$1,100. 671-7912. A  
Movie Camera, Anscomatic ST/87 super 8, \$40. 370-5148. A  
English Ford, 1959, new battery & tires, \$275. 379-0038. A  
Nash, 1929 coupe w/rumble seat, \$350. 353-2696. A  
Range, Maytag, gas, \$40. 329-7447. A  
Lens, 135mm f:3.5 auto. Schneider for Exakta, \$45. 835-3869. A  
Range, gas, 42", dble. oven, broiler, & storage drwr., \$20. 379-7342. A  
Rifle, model 99, 300 Savage w/6-power scope, \$65. 635-6134. A  
Wig, R&M, brown, \$40. 714-828-6719. A  
Exercise Machine, Ramar, 2-spd. used 5 hours, \$125. 323-3796. A  
Wardrobe, toddler, girl's, 5 dresses, 5 capri sets, coat & bonnet, \$10. 323-4257. A  
Yamaha, 1963 50 cc, \$125. 323-9598. A  
Pool Table, 4'x8', \$90. 371-8929. A  
Bed, twin size & box springs, maple finish, \$10. 756-9697. A  
Organ, Estey, elec. chord symphonette, 24 chords, 37 keys, bench, \$75. 377-8382. A  
Chevrolet, 1964 super sports convt., air cond., p/s, p/windows, 4-spd., 327 eng., \$1,350. 373-3669. A  
House, 2-bdrm., fam. rm., fireplace, 5 min. to Norair, partially furn., \$26,000. 675-0521. A  
Boat, 2 8' racing hydrocarts, fiberglass, re-designed for use w/outboard motors, \$75 ea. or both for \$125. 714-839-5730. A  
Surfboard, Rick, 9'5", \$55. 327-2598. A  
House, 3-bdrm., 2 baths, cpts., dps., fireplace, block wall fence, f/a heating, 12 min. to Northrop Haw., \$26,500. 835-5377. A  
Mobile Home, Universal, 1964, 10x55, dble. expando, 1-bdrm., cpts., porches, awning, unfurn., in adult park w/recreational facilities, \$4,995. 714-638-1296. A  
Accessories for 1954 Mercury Monterey, seats, window frames, glove comp. door, other items, all for \$20. Box 502. A  
Shelby, 1967 G.T. 500, p/s, p/b, auto. trans., 8,500 miles, 428 c.i. LeMans eng., \$4,300. 675-1365. A  
Boat, 14' Javlyn, 70 h.p. Mercury, \$895. 644-4236. A  
Machinists' Tools, Starrett, Kennedy 7-drawer chest, \$250. 866-2079. A  
Pups, collie, AKC, superb champion background, terms, \$55 to \$150. 374-6727. A  
Boat, 16' runabout w/75 h.p. Scott o/board & trailer, \$1,200. 677-6498. A  
House, 3-bdrm., dble. detached gar., 14'x20' rumpus rm. w/fireplace, 70'x126' corner lot, block wall fence, \$23,500. 324-5422. A  
Playpen, wood, w/teething rails, & car bed/seat, \$12. 635-9370. A  
Pontiac, 1965 Grand Prix, 21,000 miles, new puncture proof tires, \$2,000. 675-8411. A  
Buick, 1965 Riviera, all power, air cond., new wide oval tires, \$2,450. 714-828-6719. A  
Washer, Norge, 3 1/2 yrs. old, needs some work, \$25. 377-2064. A  
Steering Wheel, for 1968 VW, black, \$10. Box 503. A  
Transmission for 1936 Cadillac, Series 60, \$10. Box 504. A  
Pontiac, 1963 Catalina convt., p/s, p/b, r/h, auto., good tires, 31,600 miles, \$895. 472-2722. A  
Buick, 1963 Skylark, r/h, p/s, \$1,150. 830-6163. A  
Golf Bag, round, black vinyl, \$10. 541-1913. A  
House, 4-bdrm., 3 baths, tri-level, lge. rumpus room w/wet bar, 4 1/2 yrs. old, fully air-conditioned, 15 min. from Nortronics Palos Verdes, \$45,000. 831-0480. A  
Tent Camper & Boat, foldout-type, w/butane tank, stove, tables, rowboat w/oars, 13' modified sailboat hull, \$525. 371-5072. A  
Dinette Set, Duncan Phyfe, 5 chairs, table & buffet, \$50. 644-2759. A  
Chevrolet, 1963 Impala, chrome rims, gauges, custom extras, \$1,350. 671-2457. A  
House, 3-bdrm., 2 baths, cpts. & dps., h/wood floors, bltins, dble. gar., fenced yard, \$33,000. 322-0678. A  
Acreage, 2 1/2 acres in Antelope Valley between Rosamond & Mojave, level, on good road, \$35 down & \$35 mo. incl. 4% interest, \$3,500. 378-1026. A  
Honda 50, 1964, C100, \$100. 378-4676. A

**For Sale**  
T-Bird, 1959, full power, air cond., \$525. 672-8060. A  
Rifle, Marlin 22 mag., short throw lever action, 24" microgroove barrel, \$40. 676-0938. A  
Honda, 1966 S-90, extras, \$200. 714-539-9771. A  
Simca, 1957 2-dr. h/top, \$75. 422-8835. A  
Washing Machine, Bendix, new rubber tub, \$20. 324-7059. A  
Player Piano, upright, elec. & pump, 31 rolls, recently rebilt., resume \$25 mo. pymts., \$675. 714-635-2784. A  
Pups, Doberman Pinscher, AKC, 4 mos. old, ears cropped, \$150. 633-7930. A  
Golf Clubs, men's Spaulding Executive, 1968, alum. shafts, D-3, std. length, used twice, irons 2-9, 4 woods, \$225. 328-3028. A  
TV, Zenith console w/remote control, walnut cabinet, 21", b&w, \$150. 651-0445. A  
Rifle, .22 Winchester, Model 77 semi-automatic w/Weaver 4x scope, incl. 2 add'l clips, \$65. 596-0521. A  
Slip Lot, Salton Sea, lot for house & sep. boat dock on channel, roads & utilities in, Riviera Keys, near yacht club, \$7,100. 714-535-1694. A  
Acreage, 10 acres, Saugus area, view, bulldozed sites, release clauses, off Hwy. 14, terms & prepaid interest, \$11,500. 654-1242. A  
Go Kart, West Bend 550, racing slicks & muffler, \$100. 645-3381. A  
Acreage, 9/10-acre view lot, Lake L.A., terms, \$9,000. 672-4450. A  
Compressor, large, heavy-duty, \$250. 865-5084. A  
Table Top, travertine, 1" thick, 51 1/2" long x 19" wide, \$10. 347-0298. A  
Boat, 16 1/2' inboard, Chris-Craft type, mahogany deck, wood w/fiberglass hull, 1948 flathead Mercury & trailer, \$1,000. 329-3217. A  
Dishwasher, portable, G.E. Mobile Maid, 4 yrs. old, \$85. 545-3941. A  
Camera, Fairchild cinephonic & projector inc. microphone, headset, 13 mm f1.3 lens, 8 mm zoom lens, carrying case, other extras, \$250. 714-528-7636. A  
Pups, lhasa apso, male, AKC, \$150-\$200. 933-3051. A  
Piano, baby grand, Emerson, mahogany finish, \$590. 375-8778. A  
Refrigerator for camper, butane, makes ice cubes, 22" deep, 20" wide, 26 1/2" high, \$75. 379-3487. A  
Pickup, 1956 International, ¾-ton, w/cabover camper, 4-wheel drive, air cond., \$1,200. 671-1363. A  
Chevrolet, 1964 Impala Super Sport, r/h, p/s, Powerglide, \$1,250. 714-828-0858. A  
Chevrolet, 1964 Impala Super Sport, 2-dr., 8-cyl., AM-FM radio, stereo, \$1,500. 397-7177. A  
Pontiac, 1967 Firebird OHC 6 sprint, r/h, 2 new 4-ply tires, \$2,650. 883-0763. A  
Pickup, 1959 Chevrolet, Fleetside, custom cab, air cond., positraction, 6-ply knobies, hitch, alum. camper, \$700. 378-2965. A  
Station Wagon, 1962 Ford Country Sedan, auto., r/h, new snow tires, \$750. 372-8502. A  
Station Wagon, 1962 Ford Country Sedan, r/h, p/s, p/b, fact. air cond., \$650. 636-5481. A  
Mattress & box spring, extra firm, dble. size, 20 yr. guarantee, \$60. 323-8213. A  
Mobile Home, 10 x 50 w/expanded 13 x 18 living rm., in Five Star Park, terms, \$4,000. 375-6114. A  
Camera, Topcon Super D, 35 mm single lens reflexes w/behind-the-lens metering sys., 58 mm f1.4 lens, case, extras, \$200. 377-7913. A  
Volkswagen, 1966 1600 squareback sedan, radio, 12,000 miles, new spare tire, \$2,200. 714-535-6824. A  
Corvair, 1965 2-dr. h/top, 110 h.p., take over \$69.95 mo. pymts., \$700. 375-7148. A  
Wedding Ring Set, cost \$350, \$200. 376-6182. A  
Ford, 1964 Custom 500, new tires, p/s, r/h, \$1,275. 644-3887. A  
Monza, 1961, \$300. 382-5938. A  
Cemetery Lots, 4 in Terrace of Faith, Rose Hills Memorial Park, \$1,000. 869-6823. A  
Manifold, 4-barrel intake for 283 Chev., \$15. 324-8618. A  
Kitchen Base Cabinets, painted, tiled, 2 pcs., approx. 60" ea., made to fit corner, \$8. 379-1049. A  
House, 3-bdrm., walking distance to Northrop, \$26,500. 679-9891. A  
Ford, 1965 Galaxie, fact. air, p/s, Cruise-O-Matic, 27,000 mi., \$1,875. 326-2713. A  
Pickup, 1959 Ford w/8' bed & split rim wheels, \$725. 863-0761. A  
Disc Grinder-Sander, portable, Black & Decker, heavy duty, \$75. 372-4907. A  
Pups, predominately Basenji, 6 wks. old, \$10 ea. 322-5097. A  
Porsche, 1965, 365C coupe, AM/FM radio, luggage rack, chrome whls., \$3,800. 714-595-2797. A  
Boat, 14' runabout, trailer, 30 h.p. Mercury motor, \$320. 671-8672. A  
TV, 23" RCA console, walnut, Danish modern, \$85. 346-9471. A  
Acreage, 5 acres, Squaw Valley, Fresno County, new well, \$1,500 dn., \$45 mo., \$6,300. 526-2791. A  
Camera, 35 mm Praktika, f1.9 SLR, Weston meter, \$45. 714-523-2495. A

**For Sale**  
Boat, Stevens, 1960 17' inboard w/60 Buick Electra eng. & extras, \$2,250. 325-3501. A  
Home, 4-bdrm., \$28,000. 320-6975. A  
Bus-Camper, 1966 V.W., many extras, \$2,250. 324-7623. A  
Shotgun, Winchester model 1400 auto., 12-ga., 2 barrels, 26" improved cyl., 28" full choke, ventilated rib, recoil pad, \$150. 644-5626. A  
Buick, 1963 Wildcat, 2-dr., auto., p/s, p/b, p/w, \$1,300. 395-9728. A  
MG Midget, 1964, wire wheels, heater, \$950. 370-2876. A  
Buick, 1954, r/h, p/s, p/b, \$100. 374-5712. A  
Stereo Console, Symphonic solid state, walnut finish, \$140. 393-8521. A  
Stereo System, 32W component, AM-FM, FM/MX, changer, 3 lge. speakers, \$110. 823-1555. A  
Pontiac 2 + 2, 1965, 421 cu. in. eng., p/b, p/s, 4-spd., new tires, radio & rear speaker, \$2,600. 424-1869. A  
Tape Recorder, Sony, model 500A, 4-track, stereo, 7 1/2, 3 3/4 IPS; up to 7" reels; auto. shutoff, other extras, \$200. 989-5156. A  
**Wanted to Buy**  
Mattress, king size, firm. 670-8453. B  
Weaving Equipment, for sectional warping, creel for spools, lease reed, tension box, non-elec. bobbin winder. 378-1863. B  
Air Conditioner for automobile. 328-3306. B  
Bicycle, male & female 27" Schwinn 4-spd. or better. 793-3472. B  
Shot Shell 12 ga. & cartridge hand-loading equipment. 322-5136. B  
TV, portable, 18-21" & vacuum cleaner, Kirby w/attachments. 325-6652. B  
Adding Machine. 671-1012. B  
Propane Tank, for campers, 5-gal. size & tubing. Box 505. B  
Western Saddles, adult, good condition. Box 506. B  
Short Block or stripped eng. for 1959 Renault Dauphine. 370-2876. B  
**Free (To Be Given Away)**  
Pups, 4, females, dukes mixture. 644-2180. D  
**Rentals Offered**  
House, 2-bdrm., furn., Inglewood area, \$155 mo. 823-1910. E  
House, 3-bdrm., 1 1/2 baths, lge. gar., newly decorated, \$175 mo. 679-5241. E  
House, 3-bdrm., fireplace, bltins, ocean view, \$235. 372-7994. E  
Cabin, Green Valley Lake, \$25 w/end; \$45 wk. 324-0649. E  
Cabin, Green Valley Lake, \$35 w/end; \$55 wk. 320-2002. E  
Apt, 2-bdrm., furn., lge. pool & patio, closed gar., near El Camino, adults, \$170. 324-8373. E  
House, 3-bdrm., fenced yard, tile kitchen & bath, panel living rm., children OK, \$140. 675-6301. E  
Apt, 2-bdrm., furn., lge. rooms, washer, dryer, TV set, 4 short blocks to Northrop, all utilities pd., \$150. 833-2512. E  
Apt, 1-bdrm., near King Harbor, cpts., dps., bltins, piped music, bltin vacuum, gar. w/storage cabinets, \$115. 372-8835. E  
Apt, 1-bdrm., unfurn., cpts., dps., stove, refrig., newly remodeled, gar., \$250. 378-5201, 545-3656. E  
House, 3-bdrm., 2 baths, Torrance area, close to schools & Del Amo Shopping Center, \$225 mo. 372-9871. E  
**Child Care Offered**  
Child Care, near Crenshaw & Artesia. 324-3195. G  
Child Care in my home, all ages, hr., day or weekly. 644-3817. G  
Child Care in my home, infants or toddlers, fenced yard. 674-5424. G  
Child Care, 1 yr. or older, but pre-school. 370-8996. G  
Children, 1 or 2 yrs. or older, in my home, near Northrop. 772-3884. G  
**Lost**  
Wristwatch, Gruen, ladies', white gold, bet. dept. 5707 & Engineering Science Center, February 21, reward. 329-9464, 327-8994. J  
Watch, ladies' Lady Elgin, gold w/black suede band, reward, near Johnson Bldg. trailers on Feb. 16. 371-1439. J  
**Personals**  
I deeply appreciate the thoughtfulness of my friends at Nortronics following my accident. VIC STEININGER. L  
I want to express our deepest appreciation for all the expressions of sympathy upon the recent passing of my father, John A. Kasson, on behalf of all the family. GLEN F. KASSON. L  
Ironing in my home by the hour or piece, reasonable. 371-3079. L  
Please accept my sincere appreciation for the many cards & expressions of sympathy in the loss of my husband, Ernest C. Mitchell. ANNE MITCHELL. L  
**For Sale or Trade**  
Home, stucco, in Inglewood, 3-bdrm., den, cpts., h/wood floors, 2-car detached gar., patio, block wall fence, 2 full baths, \$9,000 equity, or trade for land or home in Malibu Canyon or Thousand Oaks area. 671-8401. M

**Rides and Riders**  
**Rides Wanted**  
7 a.m. — 3:42 p.m.  
Compton & Normandie, Gardena. Mornings only. Mary L. King, Norair, ext. 2605, 323-9390.  
8 a.m. — 4:45 p.m.  
White Oak & Topham, Encino. Can meet at White Oak on/off ramp or Tarzana, Encino, Reseda area. L. E. Anderson, Norair ext. 1676, 342-7565.  
Kornblum & 190th St., Torrance. Jeanne M. Lindsey, Norair ext. 2264, 676-3142.  
**Rides Offered**  
7:30 a.m. — 4:15 p.m.  
Thousand Oaks at Von's in Shopping Center, Chartered bus. D. W. Haddon, NCL ext. 4565 or 2961, 805-495-3498.

NOR FLOR  
(Continued from page 3)

a "blanket," is stacked up to eight high for cold bonding under vacuum. Sensitive instruments keep tab on the bonding cycle to assure perfect conditions. Bond or tensile tests are made on samples from each cure lot of "blankets."

Careful measure follows the curing to assure a maximum yield of panels from each "blanket." This is much like a dress-maker working with cloth and pattern.

Cutting requires a special routine for each of the two types of metals used. Aluminum panels slide over air cushions and are positioned, held and cut in one quick operation following template contours. Titanium is held in position and moved through high carbon steel saws.

Routing removes 1/10th of an inch of core around all edges and special sealants are applied to protect the panel edges.

Drilling is an important step in that drills must penetrate the tough titanium and soft core entirely, while leaving a counter-bore indentation. Aluminum inserts are placed and flanged or upset in each hole. They provide a countersunk hole through which bolts are fit snugly to secure the flooring to the structure of the aircraft. Some holes are as many as five inches apart, although most average two inches in spacing.

Hand alodining, painting (aluminum only), drying and packaging follow. Each panel is fitted with a fiberboard covering identical to the shape of the panel. Held by plastic applicators, the fiberboard protects panel surfaces during aircraft assembly. They are removed for carpeting. As many as 50 panels may be packaged in each special shipping container designed for them. Containers are routed via Norair where they are placed aboard one of the special railroad cars used to carry Norair-produced fuselage components to The Boeing Company assembly plant in Everett, Washington.

Trailer Club To Meet

The NRC Trailer and Camper Club at Nortronics Anaheim, which was dormant last season, is being re-activated.

There will be an organizational meeting at the NRC Clubhouse at 1834 Valencia Drive in Fullerton at 7 p.m. March 19 for the purpose of formulating plans for possible summer trips.

All Nortronics employees with a trailer, a camper, or a tent and an interest in group camping trips, are invited to attend.

Further information is available from Betty Stage, commissioner, on Anaheim ext. 1105.



## Miss Tolley 'Retires' as Beauty Queen

Sherri Tolley is retiring at the age of 18.

Not from her work at Northrop Ventura, where she is a duplicating machine operator in Reproduction Services, however. Miss Tolley is stepping down from active participation in the Miss Conejo Valley Beauty Pageant, in which she was the first runner-up last year.

"This year, I'm going to help the Junior Chamber of Commerce in the operation of the pageant," Miss Tolley said. "I think I'll enjoy it more that way than I did as a contestant."

### Nearly a Winner

Miss Tolley, who has been with Northrop Ventura for six months, nearly won the beauty pageant last year, as a panel of judges from radio and television voted her second in a large field of contestants.

The event is held annually as a part of the week-long Conejo Valley Days celebration, which also includes rodeos, barbecues and picnics.

It was her second appearance in the pageant.

"The first year I entered, in 1966, I guess I was just too nervous," Miss Tolley said. "I suppose it was some sort of stage fright."

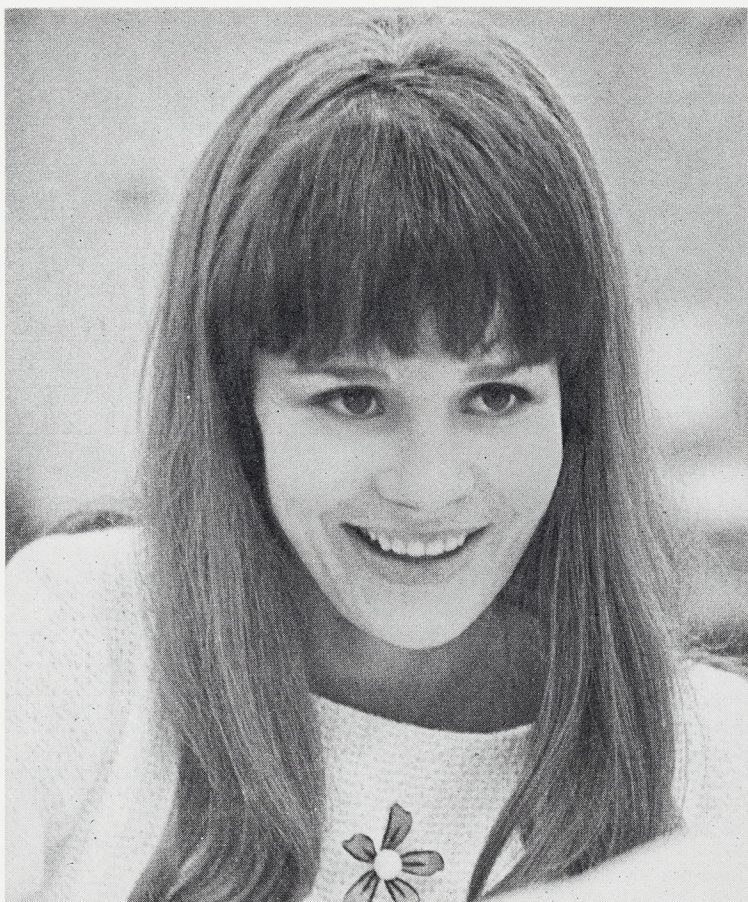
### Fashion Model

Miss Tolley also has been a fashion model in Thousand Oaks for more than two years, and once reached the statewide finals in a modeling contest sponsored by a group of ladies' clothing stores.

She is interested in outdoor activities, concentrating on swimming and water skiing, and has worked as a swimming instructor.

Miss Tolley graduated from Thousand Oaks High School in June 1967. Eventually, she hopes to attend the University of Southern California, majoring in dental hygiene.

She and her family live in Thousand Oaks.



**AT WORK**—Sherri Tolley, a duplicating machine operator in Reproduction Services, has been with Northrop Ventura for six months. Miss Tolley, who graduated from Thousand Oaks High School last June, is interested in swimming and water skiing, and once worked as a swimming instructor.



**IN THE MISS CONEJO CONTEST**—Miss Tolley nearly won the Miss Conejo Valley Beauty Pageant last year, and finally was named first runner-up. This year, she plans to pass up active participation in the contest, and aid Junior Chamber of Commerce members in pageant operations.

## NAVIGATION

(Continued from page 1)

These combined computer-receiver units will be the first automatic Omega receivers for both high and low speed aircraft and will be built by Nortronics' Navigation department at Hawthorne.

"This award is a further investment in our department by the Navy for the worldwide Omega system," stated Ross Miller, vice president and manager of the Nortronics Navigation department. "We have already been established as the leader in ship's Omega receivers. We will also introduce to the Navy, as a part of this program, the latest computer in Nortronics' family of lightweight general purpose machines, the NDC-1070."

The Navigation department already is at work on a production quantity of Omega receivers for shipboard use under a contract awarded last year. The computer for the airborne Omega system is similar to those being produced for the C-5 aircraft system.

## World's Largest Airplane Unveiled in Ceremonies

The largest airplane in the world—U.S. Air Force's massive Lockheed C-5 Galaxy, which will utilize Nortronics navigation equipment—rolled into the Georgia sunlight for the first time on March 2 at Marietta, before the President of the United States and 30,000 other awe-inspired guests, including Lockheed employees.

The Nortronics Navigation department in Hawthorne is under contract to the Lockheed-Georgia Company to build the self-contained inertial-Doppler guidance system that will be able to navigate accurately and correctly establish aircraft positions under all weather conditions at any time.

Northrop Corporation and Nortronics Division officials were among the throng who witnessed the christening of the giant plane which was developed for use by the Air Force's Military Airlift Command. The huge airship was designed to have a cargo capability four times greater than Lockheed's C-141 Starlifter, the aircraft that was—before this month—the largest AF transport airplane aloft.

Guests in attendance from Northrop included Thomas V. Jones, Corporation president; Frederick Stevens, vice president and Nortronics general manager; Ross Miller, vice president and manager of Nortronics' Navigation department; Lloyd Balsam, Nortronics C-5 Program manager and Howard Sutherland, Nortronics Marietta representative.

The maiden flight of the C-5 will be in June, with the plane operational and ready for delivery a year later. Meanwhile, the C-5's highly sophisticated Nortronics-built systems will be flight tested this summer aboard a C-141, simulating conditions the equipment will face aboard the Galaxy. The guidance system will enable C-5 crews to navigate with an accuracy heretofore not attainable. A unique Floated Inertial Platform (FLIP), a concept developed by Nortronics is the heart of the jumbo aircraft's guidance sys-

tem. In addition, miniature gyros weighing less than 10 ounces are produced for FLIP by Nortronics' Precision Products Department.

Perhaps one of the most unique subsystems on the C-5 is Lockheed's MADAR, or Malfunction Detection Analysis and Recording Subsystem. It enables the flight engineer to determine, in flight, the condition of many aircraft subsystems and to identify failed components. MADAR can check more than 800 test points, thereby substantially reducing maintenance checkout time on the ground. The key item of this subsystem, the central digital computer, is being supplied by Nortronics.

The long-awaited rollout brings closer that day when the United States can dispatch military troops together with their heavy equipment to meet emergencies anywhere in the world.

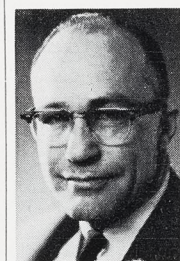
The Military Airlift Command, however, envisions the C-5 as operating in tandem with the C-141's, using the Galaxy for equipment delivery, and the Starlifter for troop transport.

Such use of the Lockheed giant and its predecessor will, according to General Howell M. Estes, jr., commander of the Military Airlift Command, "provide the United States with a strategic deployment capability second to none in the world."

Statistics pertaining to the C-5 are overwhelming when compared to those of any existing aircraft. Its interior cargo hold could swallow the entire fuselage of a B-36 bomber or 100 Volkswagens; its T-tail stands 65 feet off the ground, making it as high as a six-story building; from tip to tip the wings span 223 feet; it can set down its loaded weight on a unique landing gear with 28 wheels on a relatively unprepared grassy-slick runway no firmer than a baseball field in less than a mile; and the record-breaking facts and figures are virtually unending.

## NV Engineer Earns Three Speech Awards

Fred Rosell, an engineering specialist in Northrop Ventura's recently formed Systems Analysis group, has been named a three-time award winner in a speaking course titled "Effective Speaking, Leadership Training, and Human Relations."



Mr. Rosell

Awards were based on accomplishments during the course, conducted by the Dale Carnegie Schools, and were granted on the basis of ballots cast by the 30 students in the course.

Mr. Rosell received a "Best Speech" award, a "Human Relations" award, and the "Outstanding Achievement" award.

Mr. Rosell joined Northrop Ventura in 1967 from the California Institute of Technology's Jet Propulsion Laboratories.

## Swift To Instruct Economics Class

Bernard Swift, chief of Employee Relations and Compensation at Northrop Ventura, has been chosen to teach an economics course at the University of California's Extension Division in Los Angeles.



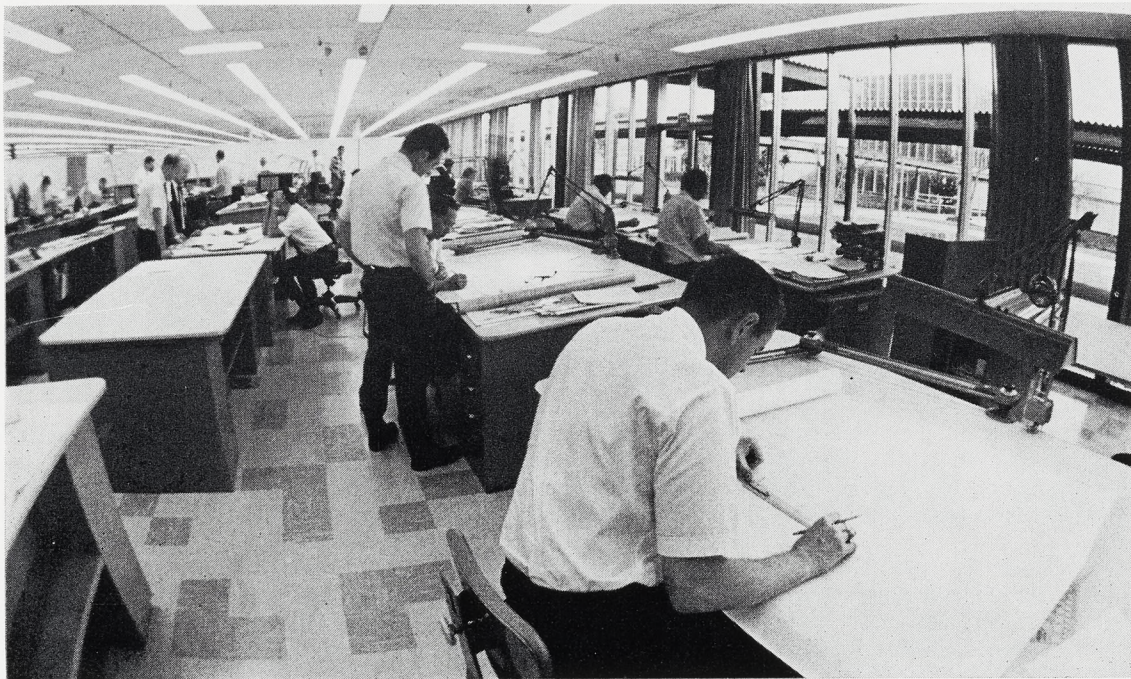
Mr. Swift

The four-unit course, Labor Economics, will meet for three hours on Monday nights from March 25 through June 10. The curriculum will include an economic analysis of trade union philosophies and practices, influences affecting real wages and employment, union-management relations, and the public economy.



**RETIREMENT TIME**—Northrop Ventura's Ruth Payne receives her 25-year pin from H. E. Riggins, jr., vice president and assistant general manager, upon her retirement. Mrs. Payne was honored at a party given by her fellow workers. She retired early this month.





**NEW LOOK** — The new "wide open spaces" look of the Engineering Building is accentuated by this photograph, taken with a wide-angle lens. Offices and drafting areas have been relocated

throughout the building, as new programs and expansion bring about change at Northrop Ventura. Photo by Bob Thornton.

## 'Shifting Environment' Brings About Change

By George C. Grogan  
Vice President  
Engineering

(Editor's Note: Following is the first in a series of articles dealing with the realignment of the Engineering department at Northrop Ventura.)

There's an adage in the aerospace industry which goes something like this:

"As soon as the telephone is connected in your new office, it's time to change offices again."

This will sound familiar to Northrop Ventura Engineering personnel who have recently been involved in a major physical reorganization.

However, the physical regrouping of people, offices, and drafting rooms is only a symptom of the greater and more fundamental changes which have taken place—and will continue to take place—in our department.

These changes are not by capricious whim, they are created by the shifting environment in which we work, an environment which requires of us a new magnitude of agility, flexibility and skill in management.

### Changes Needed

We must change to cope with the changes around us.

Research and development — our business—is a game in which the rules, the guidelines, and even the playing field changes from year to year.

We never do the same job twice. As a result, the task of managing research and development engineering is one of managing change.

Two and one-half years ago our product lines in the Engineering department consisted basically of parachutes as applied to the Gemini and Apollo programs.

In the brief time span since then, the Division has acquired ASCAC, the NV-105/MQM-74, the Boeing 747 wing fairings, and the Mark 30 Mobile Target. Also, now we are back in parachute development with modified Apollo, the Parawing and Universal Aerial Recovery System.

### More Customers

In the same two and one-half year time frame, our customers (which were almost exclusively industrial prime contractors such as McDonnell and North American Rockwell) have expanded to include three different elements of the U. S. Navy, a large commercial aircraft builder (Boeing), the U.S. Air Force and NASA's Langley Research Center.

As examples of how change is forced upon us, one of our contracts was one and a half years late because of government fund-

ing problems while the Parawing contract started a month early because of NASA urgency. These coincided with the major re-development program for the Apollo heavyweight landing system. Funding limitations and stretch-outs, such as those imposed by the Mark 30 Mobile Target Program, also are a source of change.

Technologies themselves create change. Parachutes, for example, are shifting from ballistic to gliding, controllable devices such as our own Cloverleaf and NASA's Parawing designs. Control injects into parachute technology the need for stability and control analyses and tests similar to those required for aircraft and target drones. Guidance systems, such as that needed for the Mark 30 target, is another new field for Northrop Ventura. Complex, lightweight aircraft structures for the Boeing 747 now are part of our skill bank.

### New Fields

Increasing daily in its importance is the new field of systems analysis and systems engineering. In the former we are engaged in detailed analysis of mission and function, the translation of these into hardware, and the synthesis of an over-all system. In the latter we engineer our products from a total system standpoint.

Cost effective measurement of all our products is a new way of life. Many of our programs involve complex analog and digital computing techniques. Human factors, value engineering and other relatively new fields now are part of our engineering structure. Finally, the task of defining, acquiring, installing and shaking down new facilities is upon us. Our recently-installed analog computer is a good example.

### Competition Helps

Competition itself is a source of change. Just as we broaden and increase our engineering skills, so are our competitors. We are competing with the skills, the talents, the continually-increasing efforts of some of the largest aerospace contractors. Nevertheless, in contract competitions over the past two years, we have been successful in a high percentage of our efforts.

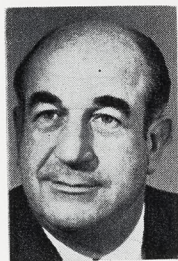
All of this requires continual modification of elements of our organization and our way of doing business.

Many people have been puzzled by the changes; a few have wondered why the changes were so long in coming.

The fundamental change has been the move from a project-oriented department to one functionally oriented with the vital project engineering overlay.

## Steman To Receive Air Force Award

John P. Steman, supervisor of Plant Protection at Northrop Ventura, will be honored next month for his work as 1967 president of the Ventura County Chapter of the Air Force Association.



Mr. Steman

made by his chapter.

Each year, the AFA assigns membership goals to each of its chapters, Mr. Steman said. Ventura was assigned a quota of 50 new members for 1967, and 80 members were added.

## Winning Teams, Individuals In Bowling League Honored

Trophies were presented this month to the outstanding individuals and teams in the Northrop Ventura Recreation Club's winter bowling league.

League play began in September at the Conejo Village Bowl, and ended this month.

Members of the first place team, "Forever AMBR," were Elaine Ainsworth, D. J. Manley, Hal Bixby and Ted Randolph. The team had a record of 58½ wins and 33½ losses. There were eight teams in the league.

Winning the trophy for team high series was "Second Time Around," with Pat Douglas, Mac Mabry, Jim Chamberlain and Alta Hegeman. The winning series was 2327.

Winning team high game honors was "The Best," with Bonnie Appel, Anne Lewis, Ed Ewing and Guy Scott.

Individual winners were:

Men's high game, Jim Chamberlain, 211+36, 247; women's high game, D. J. Manley, 244+35, 259; men's high series, Guy Scott, 594+54, 648; women's high series, Opal Friesen, 562+114, 676; most improved bowlers, Marlene Thompson and Guy Scott.

Mrs. Manley's actual score of 244 was the highest she has ever bowled.

Trophies were presented to the winners on March 15 in the Northrop Ventura cafeteria.

Summer leagues will begin soon, NVRC officials said.



**WINTER LEAGUE WINNERS** — Winning bowlers in the NVRC winter league receive their trophies in ceremonies held this month at Northrop Ventura. Seated, from left, are members

of the league's first place team. They are D. J. Manley, Elaine Ainsworth, Hal Bixby and Ted Randolph. Standing (from left) are Guy Scott, Anne Lewis, Bonnie Appel and Ed Ewing.





## INTRODUCTION TO SAILING

# 'Sunday Sails'—Getting Their Feet Wet

Would-be sailors lacking a deck to stand on are being given an introduction to things nautical through a novel "Sunday Sails" program.

Sponsored by the Northrop Sailing Club, the program is entering its second year.

It consists of making arrangements for sail boats then providing an experienced club member to help neophyte sailors master basics of handling them.

Sessions are generally held twice each month and last three hours each. The cost is a nominal \$3 per person.

Sailing is confined to the harbor at Marina del Rey, but offers an ideal opportunity to tack and turn, leave and approach a dock, to maneuver among other boats and practice other basics. More than anything else, it is a

pleasant three-hour outing.

"Our aim is to provide recreation for Northrop families and to promote sailing, both cruising and racing, among owners and non-owners of boats," says NRC Commodore Jim Reeder. "Over the past year we have scheduled more than 60 people through our program. We have received many favorable comments from those taking part."

Commodore Reeder says another step, now being contemplated, is to set up ocean racing events for beginners who have mastered the basics.

The next "Sunday Sails" program will be March 31. An NRC Sailing Club meeting tonight at NRC Clubhouse, Hawthorne, will determine subsequent dates for the coming months.

Due to the necessity for re-

serving boats, those interested must make arrangements and pay fees at Personnel Activities offices by 2 p.m. on the Friday preceding the "Sunday Sails." Activities are held at "44 Del Rey Marina," Mindanao Way, Marina del Rey.

Several interesting summer events are being planned by the Sailing Club. One is a charter trip aboard a 50-foot sloop, another is a weekend cruise to Catalina Island, plus small boat racing. The 1968 aerospace trophy race between Northrop and TRW is being planned for November.

Information on the club may be obtained from Commodore Jim Reeder, ext. 573, at Nortronics Hawthorne; Phil Snow, ext. 632, Nortronics Hawthorne; or Eleanor Myers, ext. 2858, Norair.

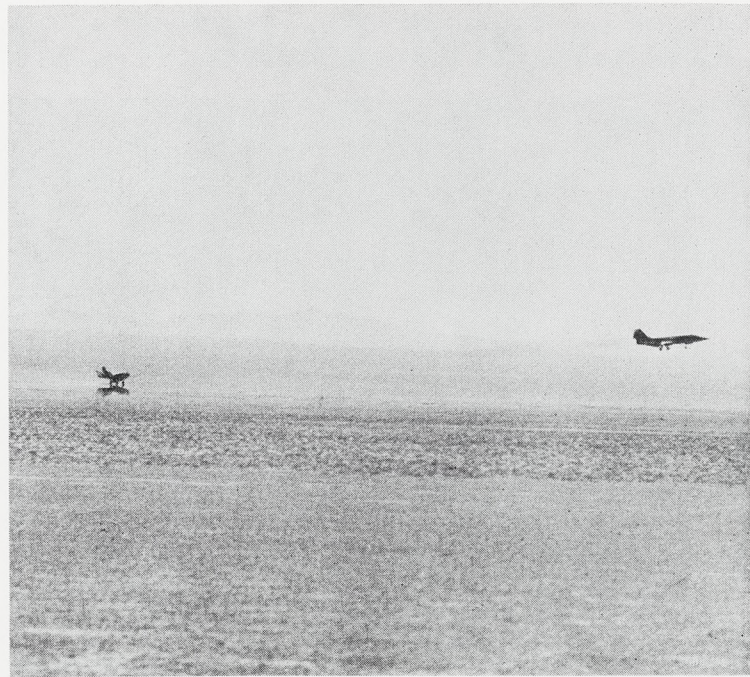
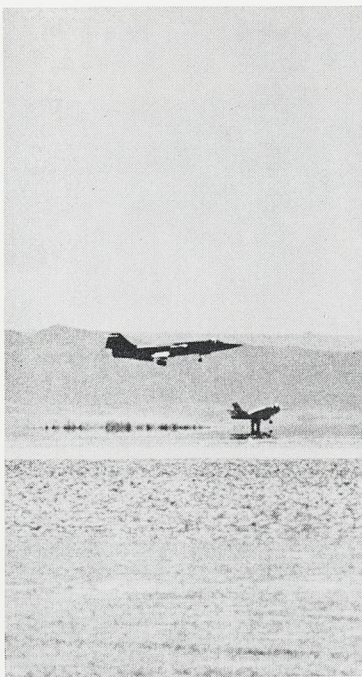


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*YO HO HO — Members of the Northrop Sailing Club take to the waters of Marina del Rey in their "Sunday Sails" program of training new yachtsmen. Above, members stand at the launching dock. In the photo at right, Jim Reeder of Nortronics, commodore of the group, points to a sail while checking wind conditions. Experienced sailors teach the basics of the sport to novices in the unique program. Sailing Club members are planning a weekend summer cruise to Catalina Island.*







The Northrop-built HL-10 Touches Down on Rogers Dry Lake

## Air Force Major Pilots Northrop-Built HL-10

The Northrop-built HL-10 lifting body was test flown successfully March 15 for the second time. Major Jerauld R. Gentry, USAF, was at the controls.

Major Gentry and the HL-10 were air-launched from a mother ship flying at 45,000 feet and 400 miles per hour. He guided the

6,000-pound wingless experimental craft through a "U" shaped pattern, then made a 220 mph glide landing on Rogers Dry Lake in the Mojave Desert.

Although a rocket engine was installed in the HL-10, it was not used in the four and one-half-minute flight.

National Aeronautics and Space Administration (NASA) is using the HL-10 as a research vehicle to gain knowledge for future design of manned re-entry vehicles.

The program is centered at NASA's Flight Research Center and the flight test program is a

joint NASA-USAF effort.

Initial flight of the HL-10 was December 22, 1966.

Since that time, NASA has modified the HL-10's vertical tail fins in order to direct more airflow over the control surfaces located at the rear of the craft. Modifications consisted of cant-

ing outward the front part of the HL-10's vertical tail fins.

The March 15 flight was the first following modifications.

The HL-10, one of two lifting body crafts built by Northrop for NASA, obtains its lift for flight from the shape of its body rather than wings.



AN INTERESTING PAIR—Northrop-built HL-10 lifting body fits snugly under the wing of a B-52 mother ship as it taxis out for flight. Minutes later the B-52 air-launched the HL-10 at 45,000 feet to begin its second successful flight.



HAPPY TWOSOME—Major Jerauld Gentry, USAF, and his wife, Arden, are all smiles shortly after Major Gentry piloted the HL-10 lifting body to a successful landing following an air launch. The flight was the second for the Northrop-built wingless craft.



SHOP TALK—Major General Hugh Manson, commander of the Air Force Flight Test Center (left), discusses successful HL-10 flight.

### Information Set For Travel Club Alaska Tour

Information on another Northrop Travel Club group tour planned for 1968, an air-sea-rail-bus visit to Alaska, is now available through Personnel Activities.

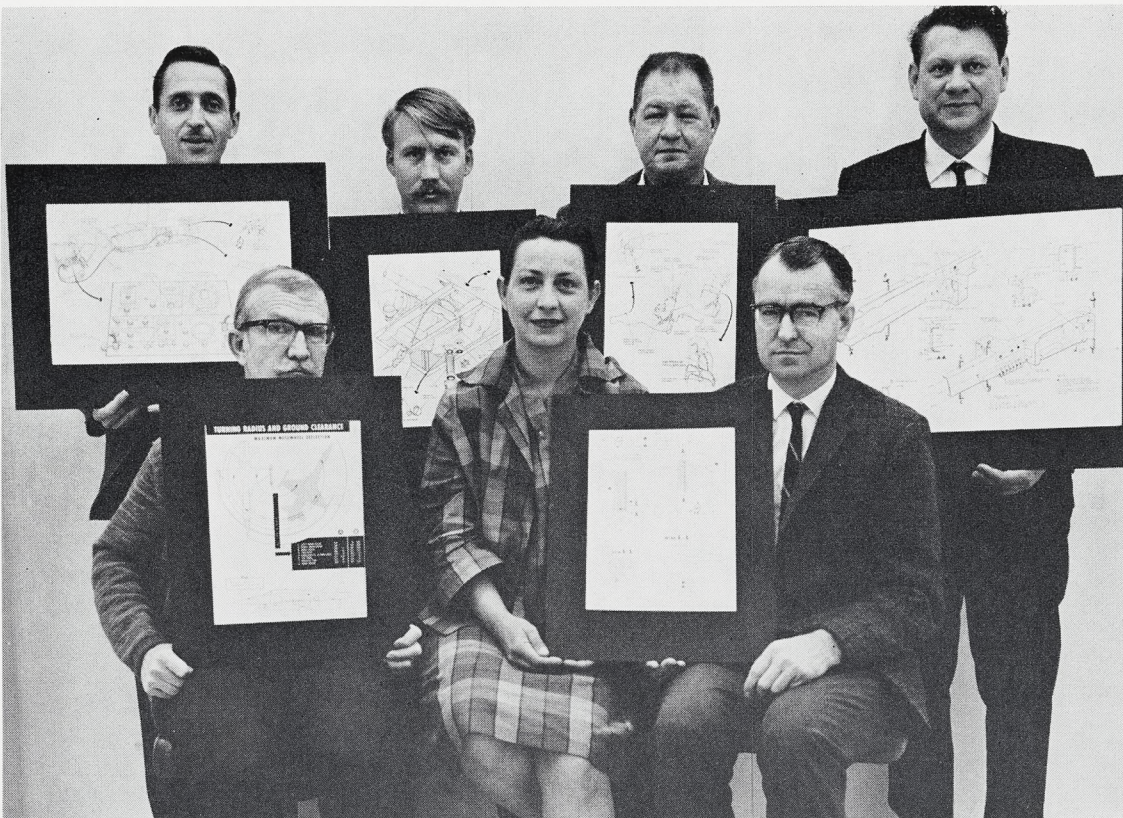
The first tour, a 16-day visit to the Caribbean area, departs June 8 and returns June 23.

The Alaskan venture begins September 5 and concludes September 18. It includes air travel to Victoria, British Columbia, the inland waterways boat trip to Skagway, Alaska, plus bus-rail and air travel on to Anchorage and return via air.

The tour price is \$745 per person and includes many meals as well as travel and accommodations.

### Ice Show Seats on Sale

Discount tickets for the 5 p.m. May 5 performance of Ice Capades at the Los Angeles Sports Arena are still available at NRC ticket outlets at all Northrop facilities.



TECHNICAL ILLUSTRATORS — Displaying their winning entries in the 15th annual Technical Illustrators' Management Association industrial art exhibit are these Northrop employees. Seated are (from left) Roy Holes, Donna

Boyd and Sverre Figge. Standing are (from left) Irwin Appel, Norman Soucy, Glenn Solomon and John Kayser. Their entries were displayed at the Museum of Science and Industry in Los Angeles.

### Mark Dickerson Named Winner Of Scholarship

Mark C. Dickerson, a senior at George Washington High School in Los Angeles, has been named 1968 recipient of the Northrop Achievement Scholarship, awarded under the auspices of the National Achievement Scholarship to outstanding Negro students.

Mark is the son of Mr. and Mrs. Paul Dickerson of Los Angeles. He hopes to study aeronautical engineering at Cornell University. He is a cadet in the Civil Air Patrol and for the past two summers has participated in National Science Foundation activities.

Mr. Dickerson is one of more than 280 outstanding Negro students across the nation—including four in Southern California—awarded four-year scholarships this year. Northrop is one of 55 corporations and foundations sponsoring the scholarships which this year have a combined value of \$1.4 million, according to NMSC.

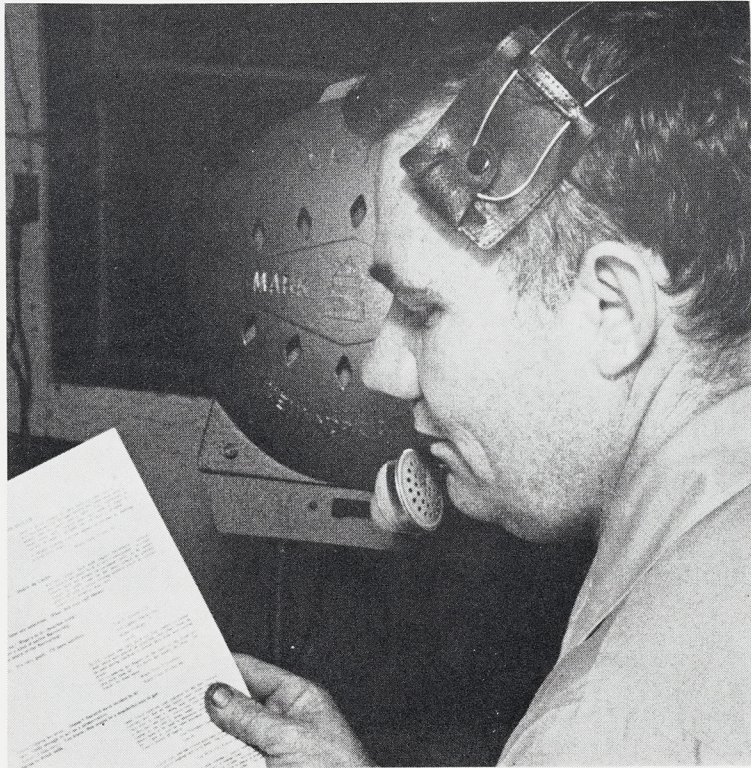


# 'Guys and Dolls' Features Four Northrop 'Guys,' 'Dolls'



'GUYS AND DOLLS' DIRECTOR Fred West suggests an amusing approach to a bit of dialogue prior to a final rehearsal for the current Chapel Theatre production in Lomita. Northrop employees (from left) Connie Sampson, Norair; Carolyn Louise Moffett, Corporate

Laboratories; and Patricia Lester, Nortronics; acknowledge that there's humor in the scene. The Damon Runyon book-Frank Loesser musical has, in just two weeks before area-wide theatre-goers, been sold out for nearly half of its scheduled 30 weekend performances.



LIGHTING CUES are checked out well in advance of each "Guys and Dolls" performance by veteran lighting technician George Bingham, a 15-year Northrop employee now working in Norair Metal Bond shop. Mr. Bingham spends much of his spare time handling lighting chores for various community theatre groups in the Los Angeles area.

## Chapel Theatre Group In Seven-Week Run

### Employees From Nortronics, Norair, Corporate Labs in Lomita Production

Four Northrop employees are being seen currently keeping company with such characters as Nathan Detroit, Harry-The-Horse and Nicely-Nicely. Fortunately for Patricia Lester, Carolyn Louise Moffett, Connie Sampson and George Bingham, it's all for the love of the stage as Chapel Theatre continues to perform Damon Runyon's "Guys and Dolls" to standing room only at their new playhouse in Lomita.

The show, which opened to a full house just 12 days ago, was originally scheduled for five weeks of 14 Thursday through Sunday performances. Already ticket sales have pushed the oldest established permanent floating Frank Loesser musical into a seven-week run with at least 30 performances set for the boards.

Mrs. Lester, a Nortronics sec-

retary to Roger DiJulio at Palos Verdes, is cast in the leading role of Adelaide, a brassy-voiced night club "entertainer" who wants more than anything else a house in the country, Nathan Detroit and children. Mrs. Lester has been with Nortronics Finance for three years and has spent seven years of spare time as an actress in community theatre.

Recently, she studied with Agnes Moorehead, and has received instruction in theater arts and voice at El Camino College.

Miss Moffett is an accountant at Northrop Corporate Laboratories. Her background includes touring in summer stock for three years before coming to Northrop. She has acted in the company of John Carradine, Joe E. Brown and Zazu Pitts.

One of the "Dolls" in the show is Connie Sampson, a secretary in Systems Reliability at Norair.

She's been a performer since she was 6, is an accomplished pianist and blues singer, has done professional modeling since she was in high school, and is an artist. She recently appeared in Long Beach Civic Light Opera productions of "Gypsy" and "Picnic."

A Norair employee you won't see if you catch "Guys and Dolls" is George Bingham of the Metal Bond shop. He is responsible for the lighting on this show as well as numerous others in recent years around Los Angeles.

A special performance for Northrop employees has been arranged through the Personnel Activities office at Norair. Seats can be reserved for the 8 p.m. show on Sunday, April 21, at the reduced rate of \$2 by telephoning the Norair Personnel Activities office at ext. 2486. Tickets for all other performances are \$2.50 and are available at the theatre box office at 2222 Lomita Boulevard in Lomita, or by telephoning 372-9636 for reservations.

## Disneyland Ticket Sale Under Way

The annual rush to obtain tickets to Northrop Night at Disneyland is now in progress throughout Northrop facilities.

This entertainment buy of the year comes off May 25 when all attractions, features and thrills of the "Magic Kingdom" are reserved exclusively for Northrop employees, their families and guests from 8 p.m. to 1 a.m.

The cost, \$3.75 per person, is all-inclusive. That is, it buys admission to the park and unlimited use of all Disneyland attractions, with the exception of shooting galleries.

Tickets may be obtained through regular NRC outlets.

Opened since the last Northrop visit is an all-new Tomorrowland, including seven major new attractions. This new land, costing \$23 million, is just one of many available at the Anaheim pleasure center.

## SECRETARY OF YEAR?

### Award Candidate Named

Mrs. Yauncey Newman, a Northrop secretary for nearly 10 years, has been nominated as a candidate for International Secretary of the Year.

Mrs. Newman is secretary to William A. Bogess, director of Northrop's Eglin District Office in Florida.

She was nominated by the Temple Mound Chapter of the National Secretaries Association.

Mrs. Newman, the first candidate ever nominated by the chapter, holds a certificate in business administration from the University of Cincinnati, and received the rating of Certified Professional Secretary (CPS) in 1965. She joined Northrop in California in 1958, and worked in the Corpor-

ate office until moving to Florida in October 1966.

Selection of the International Secretary of the Year is based on background scores and interviews by a panel of judges. Scores are influenced by an individual's education, business experience, CPS rating and other activities. Judges score the candidates on appearance, poise and response to questioning.



Mrs. Newman

### Safety Guide Published

A handy pocket-sized book filled with information on an important subject — personal safety — will be distributed to all Northrop Norair employees Friday along with paychecks.

It's called an Employee Safety Guide.

Published with the well-being of every employee in mind, the book contains information, ideas and guidance to help individuals avoid accidents and injuries.

## IT'S A FACT AT NORTHROP

Northrop is one of the leading producers of automatic navigation systems. The astro-inertial guidance and navigation systems used in the world's fastest airplanes — the USAF-Lockheed SR-71 — and the inertial-Doppler navigation system used in the world's biggest airplanes — the USAF-Lockheed C-5's — are both built by Nortronics' Navigation department in Hawthorne. The gyroscopes for the navigation systems, as well as for many of the guidance systems made by other companies, are produced by the Precision Products Department in Norwood, Massachusetts.

In addition, Nortronics is at work building shipboard and airborne radio navigation receivers for the Navy's new Omega worldwide, all-weather navigation system for ships, submarines and aircraft. The potential market for these receivers is very large.



NEWEST FEATURE — The newest attraction at Disneyland is a \$23 million Tomorrowland complex, featuring the "People Mover," "America the Beautiful," "Adventure Through Inner

Space" and "Flight to the Moon." Northrop's annual night at Disneyland has been scheduled for May 25. Tickets are on sale and may be obtained through NRC outlets.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

**For Sale**  
**Range**, Kenmore, 4-burner, \$50. 675-2510. A  
**Loudspeaker**, University Classic, folded horn 3-way system, lo-boy mahog. cabinet, 30-35 c.p.s. bass response, \$140. 398-5019. A  
**Honda 50**, 1964, C100, \$100. 378-4676. A  
**Dinette Set**, Virtue, chrome, 4 chairs, \$40. 378-2609. A  
**Lanterns**, 2 Coleman, gas, 2-mantle, & stove, Coleman, gas, 2-burner, \$6 ea. or \$15. 677-8868. A  
**House**, 2-bdrm., dble. det. gar., 50'x150' R-2 lot, fenced, close to shopping, \$18,000. 324-5422. A  
**Station Wagon**, 1962 Ford, custom, 8,000 miles on new eng., air, stereo, \$1,300. 370-2498. A  
**Station Wagon**, 1962 Ford, some body damage, big T-Bird eng., auto. trans., \$150. 833-9647. A  
**Surfboard**, Bing, D.T. model Vol. II, 10'1", \$70. 379-2804. A  
**Hedger**, elec., \$15. 633-2395. A  
**Corvair Monza**, 1962, r/h, auto. trans., \$300. Box 601. A  
**Scooter**, Cushman, \$35. 676-7429. A  
**Volkswagen**, 1964 sedan, 46,000 miles, new clutch & valve job, \$1,100. 379-8993. A  
**T-Bird**, 1955, needs body work, \$895. 674-5616. A  
**Bar**, portable, modern, walnut finish, black padded arm rest, semi-circular, \$110. 545-6064. A  
**Buick**, 1967 Riviera, air, FM stereo, full power, 11,000 miles, \$4,695. 634-7127. A  
**Acreage**, 5 acres, near Lake Los Angeles, \$5,990. 877-2219. A  
**Van**, 1963 Ford Econoline, near new tires, \$799. 644-2154. A  
**Vibrator**, professional, hand roller 3-way, \$15. 676-0938. A  
**Photo Enlarger**, dble. condenser lens, 35 mm 2 1/2x2 1/2, 50 mm f3.5 lens, inc. adj. easel. \$35. 839-5438. A  
**Slide Rule**, 17-jewel selectron, & flight computer watch, \$35. 375-7265. A  
**Pups**, collie, AKC, papers, sable & tri, \$75. 370-4475. A  
**Camper**, 1967 Huntsman, 8', cabover w/extras on 1965 Chev., 1/2-ton, auto. trans., custom cab, big tires, 2 extra gas tanks, r/h, \$2,395. 644-3803. A  
**Sailboat**, 12' Firefly sloop, sails, all equip. & trailer, \$595. 377-5862. A  
**Go-Cart**, 15 h.p. Salisbury motor & trans., 7" wide slicks, deep rims, wide track, \$100. 676-7109. A  
**Refrigerator**, 2-dr. General Electric, 14 cu. ft., \$50. 378-6662. A  
**Pontiac**, 1966 GT0, h/top, 4-spd., 389 eng., \$2,150. 376-7898. A  
**Pups**, basset, tri-colored males, AKC, wormed & shots, avail. April 1, \$75. 830-3816. A  
**Guitar**, Vox, Phantom VI, \$175. 374-8448. A  
**Honda**, 1967 S90 w/rock guard & luggage rack, 1,100 miles, \$250. 645-1274. A  
**Typewriter**, Underwood noiseless, elec., office model, 15" platen, \$75. 676-2196. A  
**Stereo 8** Tapes, classical & popular, reg. \$3.50; twin pack \$5. 323-6795. A  
**Luggage Carrier** w/straps, \$5. 644-5985. A  
**Golf Clubs**, woods 1-3-4, MacGregor, irons 2 through 9 & wedge, H&B stainless steel, \$65. 634-8423. A  
**Motorcycle**, Yamaha, 250 cc, Scrambler, completely o/hauled w/guarantee, \$300. 836-4340. A  
**Band Saw**, Delta 14", back geared, 1/2 h.p., stand, \$200. 944-5946. A  
**Golf Clubs**, Walter Hagen, full set, 1-4 woods, 2-9 irons, putter, bag, cart, \$75. 714-525-8983. A  
**Camper**, 10' cabover, on 1959 3/4-ton Ford, air cond., butane refrig. & stove w/oven, \$1,195. 324-2587. A  
**Chevrolet**, 1953 2-dr., 41,000 original miles, std. shift, \$350. 329-6420. A  
**Volkswagen**, 1963 Sunroof, AM-FM, extras, \$925. 327-0410. A  
**Travel Trailer**, 17' Aristocrat, fully self-contained, used 3 times, 1 yr. old, \$2,000. 377-6426. A  
**Mower**, hand-type, heavy duty, Pennsylvania, \$15. 327-2279. A  
**Pontiac**, 1966 GT0, 389 cu. in., 4-spd., positraction, \$2,150. 375-3901. A  
**MG**, 1958, new tires, slight front end damage, \$110. 370-4315, 329-3922. A  
**Dirt Bike**, Royal Enfield, 250 cc, trials, knobbie tires, extra access., recently o/hauled, \$250. 370-3109. A  
**Surfboard**, 9'6" Gordon & Smith Hy III, \$80. 375-6397. A  
**Flying Club Membership**, 10 airplanes, at Van Nuys Airport, \$300. 346-4152. A

**For Sale**  
**Cadillac**, 1958 coupe, full power, air, \$350. 327-2447. A  
**Pontiac**, 1964 Grand Prix, p/s, p/b, stereo, wire whls., customized, \$1,800. 371-5261. A  
**China Cabinet**, walnut, Danish modern, sliding glass doors in top, \$50. 532-4368. A  
**Corvair Monza**, 1962, 4-spd. stick shift, r/h, good tires, \$350. 755-1925. A  
**T-Bird**, 1964, low mileage, \$1,595. 377-9842. A  
**Motorcycle**, 1966 Yamaha, 250 cc, \$425. 323-7544. A  
**Lot**, 82 1/2 x 275 ft., level, water, elec., near Lake Isabella, \$295 dn., \$2,950. 714-532-1361. A  
**Reducing Machine**, Stauffer, \$45. 324-8618. A  
**Ford**, 1963 Ranchero, auto. trans., r/h, just o/hauled, V-8 eng., take over \$45 mo. pymts., \$250. 714-539-9771. A  
**Saxophone**, Selmer Bundy, E flat alto, used 4 mos., \$220. 377-5853. A  
**Stove**, coppertone, Gaffers & Sattler, gas, rotisserie oven, \$100. 679-2456. A  
**Toilets**, marine-type, for trailer or boat, \$40 ea. 373-1932. A  
**Shotgun Shells**, once fired, 20 ga., paper, over 400, \$5. 327-4585. A  
**MG Magnette**, 1956 4-dr. sedan, recently o/hauled, \$350. 371-1439. A  
**Sleeping Bags**, 2, hvy. duty, 5-lb. dacron filled, 42" x 84" hvy. duty air mattresses, \$20 ea. 323-3796. A  
**Crib**, mattress & bedding, \$10. 323-4257. A  
**Surfboard**, 9'7", \$65. 323-9598. A  
**Gun**, antique, converted flintlock, early 1800 vintage, \$200. 377-7670. A  
**Station Wagon**, 1961 Falcon Deluxe, stick shift, heater, good tires & brakes, \$325. 831-5304. A  
**Vacuum Cleaner**, Hoover, model 62 w/attachments, \$19. \$377-2064. A  
**Acreage**, 2 1/2 acres in Antelope Valley between Rosamond & Mojave, level, near Hwy. 14 & adopted freeway, \$35 dn., \$35 mo. inc. 4% interest, \$3,500. 378-1026. A  
**Ski Boots**, boy's size 3, \$9. \$329-3152. A  
**Station Wagon**, 1961 Rambler Ambassador, V-8, p/s, p/b, p/w, fact. air, r/h, auto. trans., \$425. 769-3345. A  
**Motorcycle**, 1964 Triumph Bonneville, custom, chrome, \$900. Box 602. A  
**Oldsmobile 98**, 1954 4-dr., rebilt. eng., r/h, auto. trans., near new tires, \$150. 397-0881. A  
**Parrot**, Panama green-cheek, talks & whistles, \$60. 714-544-4288. A  
**MG Midget**, 1962, r/h, soft top, tonneau cover, 38,000 miles, \$700. 325-1190. A  
**Sailboat**, 8' Sabot Gofit rigged, complete w/sails, oars, \$125. 377-7970. A  
**Radio Control** for model airplane, citizenship analog proportional sys., complete w/transmitter, receiver, other extras, \$100. 941-7174. A  
**Pontiac**, 1967 GT0, 7,000 miles, \$3,200. 534-3410. A  
**Oldsmobile**, 1963 Super 88 Holiday, 4-dr. sedan, air cond., full power, \$1,095. 375-3914. A  
**Boat**, 16' Wizard, fiberglass, elec. starter, big twin Evinrude 25, remote controls, trailer & many extras, \$550. 645-0859. A  
**Volkswagen**, 1965, 30,000 miles, \$1,200. 293-5827. A  
**Chevrolet**, 1957 Bel-Air, 2-dr., 283 V-8, auto. trans., p/b, p/s, \$250. 636-5035. A  
**Cortina**, English Ford line, 1965, 2-dr. sedan, stick shift, \$875. 757-6960. A  
**Concrete Mixer**, 3 cu. ft. w/semi-pneumatic whls., electric motor drive, Sears make, \$90. 323-1698. A  
**Sewing Machine**, portable w/attachments, \$20. 320-3440. A  
**Table Saw**, Craftsman 8" tilting arbor w/stand, set of dado blades & 3/4 h.p. ball bearing motor, \$65. 714-528-7636. A  
**Honda**, 1966 305 Scrambler, \$450. 372-9706. A  
**MGB 1800**, 1966, radial ply tires, htr., anti-roll bar, recent valve job, wire whls., \$1,695. 662-1642. A  
**Tape Recorder**, Concord, stereo, 4-track, sound-on-sound, 2 mikes, extra speaker, \$175. 325-3724. A  
**Autoette**, elec., used 1 mo., needs new batteries, \$400. 325-7154. A  
**Pontiac**, 1968 GT0, Hydromatic, 5,000 miles, \$3,200. 676-4680. A  
**Buick**, 1954 4-dr., p/s, p/b, r/h, \$100. 374-5712. A  
**Units**, 2-bdrm., single family & duplex on same lot, 5 min. to Norair, terms, \$36,000. 374-3542. A  
**Boat**, 16', 75 h.p. Mercury o/board, \$1,195. 329-1657. A  
**PCS**, never used, complete system, remote control, proportional, 72 MHZ, 5 channels, \$265. 754-3694. A  
**Camper-Trailer**, teardrop, butane stove & icebox, 6 x 8 closed awning, spare wheel & tire, \$175. 675-4156. A  
**Mangle**, Ironete, \$100. 321-2611. A  
**House**, 4-bdrm., 1 1/4 baths, insulated, sprinklers, block wall, fireplace, enc. patio, bltin barbecue, \$28,000. 320-6975. A  
**Golf Clubs**, Golfcraft, matched set, vinyl bag & cart, 2 wedges & putter, \$140. 370-2869. A  
**Oldsmobile**, 1962 4-dr. h/top, fact. air, p/s, p/b, p/seat, p/w, r/h, \$695. 714-630-2796. A  
**Mercury**, 1966 Parklane 4-dr. h/top, p/s, p/b, p/w, air cond., new tires, brakes & battery, AM-FM stereo radio, \$2,295. 752-4339. A  
**Trailer Hitch** for 1959-1967 Cadillac, 4130 steel, custom-made, \$35. 329-6985. A

**For Sale**  
**Camera**, Yashica Super 40, Super 8, auto., 9/36 mm power zoom, remote control, \$80. 675-7530. A  
**Diamond Ring**, women's white gold .48 carat, \$115. 532-4757. A  
**Honda 50**, 1965, \$110. 363-3843. A  
**Sailboat**, 8' Pram, \$99. 324-3226. A  
**MG Midget**, 1964, wire wheels, heater, \$900. 370-2876. A  
**Range**, Imperial, gas, 36", 4 burners, lge. oven, broiler, clock, timer, \$40. 679-3896. A  
**Chevrolet**, 1955, V-8, 4-dr., new tires, \$295. 378-7116. A  
**Rotisserie Oven**, General Electric, copper-tone, \$35. 676-6303. A  
**Bridal Gown**, imported white lace w/silk cathedral train, bouffant veil secured by tiara of lace & pearls, size 10, \$60. 783-6632, 676-6390. A  
**Dodge**, 1966 Coronet 500, 2-dr. h/top, fully equipped, Dunlop SP-41 radials, \$2,350. 456-2690. A  
**Trailer**, custom alum. teardrop, sleeps 4, 3-burner stove, sink, & icebox, 6 x 10' canvas cabana, \$250. 374-8036. A  
**Yamaha**, 1964, 250 cc, rebuilt eng. & clutch, \$400. 585-9139. A  
**Buick**, 1963 Skylark, auto. trans., V-8, p/s, r/h, \$1,150. 830-6163. A  
**Whirlpool Bath**, Jacuzzi, used 4 times, \$160. 935-0493. A  
**Pups**, min. dachshund, female, AKC, dk. red, \$100. 582-1079. A  
**Dishwasher**, 1965 G.E. Mobilemaid, little use, \$65. 378-0603. A  
**Movie Camera**, Anscomatic ST/87 Super 8, f:1.7, f:8.5, 26 mm Chinon reflex zoom lens, auto. light meter readings, other extras, \$50. 370-5148. A  
**Corning Ware**, complete set, \$50. 532-7663. A  
**Lawnmower**, Craftsman reel-type, power, 20" w/new catcher, \$40. 714-528-7636. A  
**Razor**, Sunbeam Shavemaster, elec., late model, seldom used, \$14. 378-5175. A  
**Mustang**, 1967 h/top, 289 V-8, low mileage, over \$900 optional equipment, air cond., \$2,495. 805-498-2056. A  
**Pickup Truck**, 1950 Chev., 3/4-ton w/cabover camper, wired for 110, '55 6 cyl., 4-spd., \$500. 374-5792. A  
**Clothes Dryer**, Westinghouse elec., \$50. 370-0990. A  
**Volkswagen**, 1965, Variant S squareback, \$1,500. 430-4407. A  
**Dog**, cocker spaniel, 2 1/2 yrs. old, AKC reg., needs good home, inc. doghouse, \$35. 348-4874. A  
**Poodle**, black, female, about 6 mos. old, shots & license, \$12.25. 541-1423. A  
**Lot**, view o/looking Lake Elizabeth on paved street, electricity & water, 10% down, \$4,150. 805-947-8389. A  
**Pickup**, Ford F-100, 1965, 8' bed, good tires, 35,000 miles, \$1,350. 805-769-4753. A  
**Camera**, Minolta SRT-101, f:1.7 w/behind-lens meter, Minolta tele., 135mm & wide angle, 35mm, lenses, auto., used 3 or 4 times, & binoculars, Nikon 7x35, gadget bag, never used, \$450 or sell sep. 376-4473. A  
**Camera**, 35mm Leica IIIf w/50mm Nikon 1.4 lens, speeds to 1/1000, self-timer, \$150. 714-626-1597. A  
**Crib**, mattress, bathinette, \$25. Box 603. A  
**Mini-Bike**, Briggs & Stratton, \$75. 246-4495. A  
**Chevy II**, 1963 2-dr., 100 Series, r/h, \$500. 714-540-7283. A  
**Chevrolet**, 1961, Impala, 2-dr. h/top, 283 cu. in., auto. trans., r/h, front & rear spkrs., 4 new Atlas Plycron tires, \$550. 644-2717. A  
**T-Bird**, 1957, all power, w/portholes, \$1,550. 329-2571. A  
**House**, 2-bdrm., on R-2 60 x 129.7 lot, in Lynwood, 2-car det. gar., 22' x 30' x 6' high fenced pool area, assume GI 5 1/4% 1st T.D., \$17,500. 631-8333. A  
**Lot**, lake view, new boat slip, Bass Lake, large, fairly level, nice timber, \$750 dn., \$50 mo., \$3,500. Box 604. A  
**Cemetery Lots**, 4 in Eventide sec. of Green Hills Memorial Park, perpetual endowment care, \$1,500. 376-4677. A  
**Dodge**, 1967 Charger, p/s, p/b, r/h, air cond., auto. trans., 383 eng., 4 barrel carb., 10,500 miles, \$2,900. 691-3753. A  
**Wheels**, set of 4, 5 1/2"x14", for Plymouth, with or w/out 8.25x14" Goodyear w/w tires, \$15. 439-6432. A  
**Furniture**, various pieces, \$600 or sell sep. 644-4529. A  
**Drum Set**, Ludwig, 4-pc., 22" bass, hi-hat, cymbals, black diamond pearl, \$325. 375-6337. A  
**Lots**, 2, Yucca Valley, 1.12 acres, water, electricity, \$2,250. 714-365-3651. A  
**Pup**, 3/4 shepherd, 1/4 husky, healthy, females, \$25 ea. 547-1047, 375-9397. A  
**Wedding Ring Set**, \$200. 376-6182. A  
**Guitar**, \$20. 679-6509. A  
**Oscilloscope**, Eico, 5", \$15. 677-3920. A  
**Dune Buggy**, 1961 VW, fiberglass, rebilt. eng., tuned exhaust, \$1,500. 370-2876. A  
**Stove**, 36", gas, \$10. 379-1049. A  
**Corvette**, 1967, 327 eng. w/350 h.p., p/s, air cond., new tires, \$4,000. 320-0206. A  
**Cabin Cruiser**, 16 1/2', fully equipped, 110 Mercury eng., \$1,900. 375-0351. A  
**Wanted to Buy**  
**Dryer**, gas, in good condition. 370-7749. B  
**Freezer**, upright, reasonable. 541-1923. B  
**Bunk Beds** in good condition & reasonably priced. 372-8502. B

**Wanted to Buy**  
**Engine**, 1950-1954 Chevrolet, in good running condition, also 6 volt car radio. 325-0731. B  
**Air Conditioner** for '66 Comet V-8. 328-3306. B  
**Enlarger**, 35 mm to 2 1/4 x 2 1/4, condenser-type, 378-5856. B  
**Projector**, 16 mm, any style, any age, in running condition. 632-8696. B  
**Fiddle Case**, used, bass. 329-6039. B  
**Speaker System**, AR2ax or KLH. 833-5594. B  
**Outboard Motor**, 9.5 h.p., either Johnson or Evinrude. 327-8927. B  
**Free (To Be Given Away)**  
**Uniforms**, Civil Air Patrol, AF blues, fatigues, size 16-18, misc. items. 754-9889. D  
**Top Soil**, sandy loam, you haul. 326-5459. D  
**Dog**, German shepherd, young adult, blonde, male, needs good home. 329-1018. D  
**Rentals Offered**  
**Apt**, 1-bdrm., cpts., dps., bltins, ground flr., no pets, adults only, water & trash pd., \$95 mo. 676-9492. E  
**Studio Apts**, 2 & 3-bdrm., now under construction, ready by June 1, cpts., dps., all elec., bltin range, pvt. patios, many extras, no pets or children under 12, near Del Amo shopping area, \$165, \$195 & 275. 326-4944. E  
**Apt**, 1 & 2-bdrm., cpts., dps., bltins, closed gar., all elec., 10 min. to PV, 20 to Hawthorne, \$100 & 125 unfurn.; \$120 & \$145 furn. 375-2091, 375-9397. E  
**Cabin**, in Green Valley, \$25 w/ends; \$45 wk. 324-0649. E  
**Vacation Cabins**, Idylwild, 1 & 2-bdrm., fire-place, stream, patios, \$20-\$35 w/ends; \$45-\$75 wk. 754-5288. E  
**Apt**, 1-bdrm., unfurn., gar., adults, 2 miles from Norair, \$90. 674-0755. E  
**Apt**, 2-bdrm., furn., lge. pool & patio, closed gar., near El Camino, adults, \$165. 329-5986. E  
**Vacation Cabins**, Lake Gregory & Crestline, sleep 6, make reservations for June through Sept., \$25 w/ends; \$60 wk. 391-2040. E  
**Cabin**, Lake Arrowhead, modern, north shore, 200 ft. from lake, \$100 wk. 375-2255. E  
**Rentals Wanted**  
**House**, 2-bdrm., yard, in Orange County, have baby & small dog. 714-630-1914. F  
**Garage**, small, to use as darkroom, Hawthorne area. 644-3187. F  
**Half** of dble. garage or all of single, for storage of boat & trailer, South Bay area. 679-2642. F

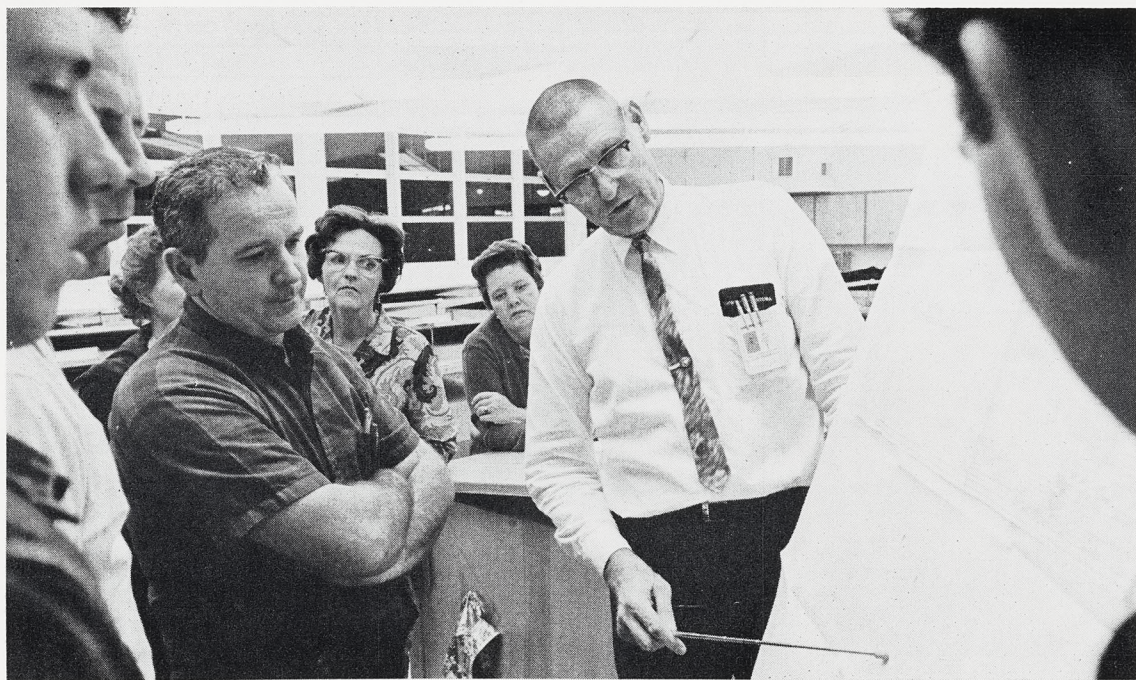
**Child Care Offered**  
**Child Care**, hot lunch, vicinity Lincoln & Manchester. 670-0372. G  
**Child Care Wanted**  
**Child Care**, 2 children ages 4 & 7, 3:30 p.m. to 1 a.m., my home, will furnish transportation. 379-6522. H  
**Lost**  
**Necklace**, black pearl, either in Anaheim parking lot or Bldg. Y-10 on March 13. 714-879-9173, 714-871-9342. J  
**Personals**  
**Fly** Cessnas & Bonanzas, at Hawthorne, pros & students accepted. 671-2852. L  
I wish to extend my warmest appreciation to the wonderful people at Northrop who honored me with their friendship. Also, my thanks for the retirement party & lovely gifts. MAY WARD. L  
I want to thank all the wonderful people who made my last day at work a very memorable one. I shall never forget their friendliness & kindness to me. MARIA LUTZOW. L



'MONEY TREE'—May Ward (right), retiring after 26 years with Northrop, receives a unique gift from her colleagues in Corporate Accounting—a "tree" filled with cash. Making the presentation are Don Lutz, director of Corporate Accounting, and Audrey Caldwell, who replaced Mrs. Ward as secretary to Mr. Lutz.

**Rides and Riders**  
**Rides Wanted**  
**7:24 a.m.—4:06 p.m.**  
**Imperial & Old Riverschool Rd.**, Downey. Two riders, if only room for 1 O.K. Rita Chastain, Mariposa ext. 4075, 862-5350.  
**8 a.m.—4:45 p.m.**  
**Imperial & Lakewood Blvds.**, Downey. Morris Brown, Norair ext. 4487, 861-8508.  
**Manchester & Sepulveda**, Los Angeles. Prefer ride near Loyola University or Westchester Playground. Lola Shadlaus, Norair ext. 1006, 670-6017.  
**Personals**  
We wish to thank the many Northrop friends for our retirement gifts. A special thanks to the Recreation Club for the kind words & gifts, they will never be forgotten. EARL & RUTH BIRD. L  
To all my friends, a heartfelt thanks for the many lovely gifts, money tree & the wonderful party. Even though I will miss you all, but with so many friends wishing me good luck, makes my retirement happier. HELEN FORNEY. L  
**For Sale or Trade**  
**Swing Set**, dishes, tools, furn., auto parts, \$75 or sell sep. or trade for trailer hitch, no-sway. 677-6712. M  
**Corvair**, 1960, \$300 or trade for a piano. 679-8029. M  
**Ski Boat**, 14' Wizard, 30 h.p. Mercury, trailer, \$500 or trade for cabover camper. 638-5076. M  
**Home**, stucco, in Inglewood, 3-bdrm., 2 baths, den, cpts., h/wood flrs., 2-car det. gar., patio, b/wall fence, \$9,000 equity \$26,000 or trade for land or home in Malibu Canyon or Thousand Oaks area. 671-8401. M  
**Pistol**, Smith & Wesson .38 special w/6" barrel, 400 rounds of ammo, \$95 or take in part trade for .45 auto. 379-3487. M  
**Recorder**, stereo, Ampex 2070, 2 4001 spkr. sys., Garrard SL-65 w/Pikering ACE-3 cart., other access., approx. 100 taped albums, \$1,250 or trade for Volkswagen, 1965-'66. 645-6720. M  
**Movie Projector**, 16mm Ampro sound/silent, \$150 or consider trade toward Mini-Bike, 4-5 h.p., drafting machine, or guns. Box 605. M





**BLUEPRINT READING** — Ben Sumner of Northrop Ventura instructs blueprint reading to an adult class at Newbury Park High School.

Mr. Sumner has been a teacher for several years.

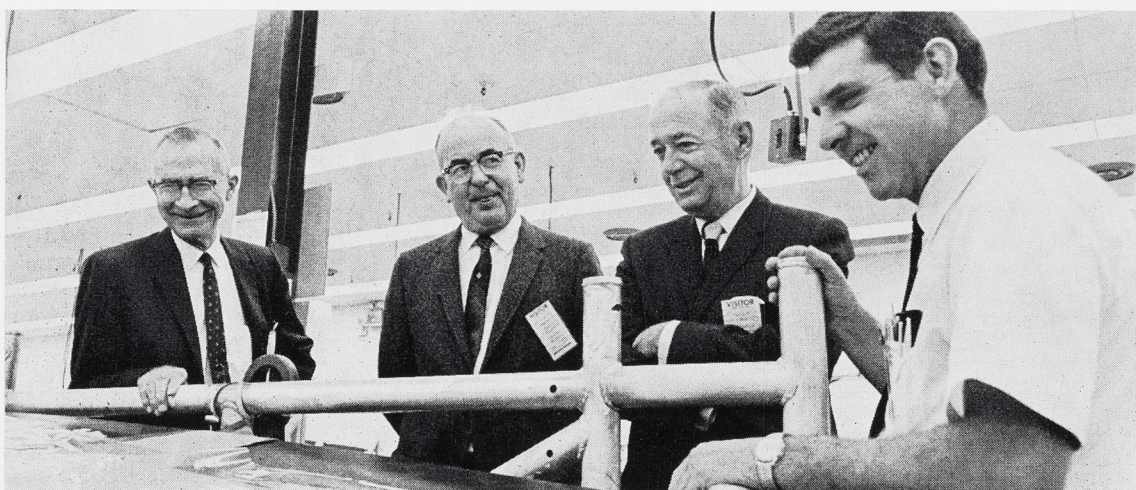


**PLASTICS WORKER** — Mrs. Lupe Jimenez marks the core position on a section of a fiberglass wing fairing for the Boeing 747. Behind her is Chuck Borst. Mrs. Jimenez was hired after completing a plastics class at Oxnard High School, the first one given in cooperation with Northrop Ventura. Mr. Borst is administrator of Professional Development and Training at Ventura.



**TRAINING CONTINUES** — Bill Craig of Northrop Ventura steps to a blackboard to instruct a class in shop mathematics. The class, at New-

bury Park High School, was just one of many taught by Northrop Ventura personnel during the fall semester.

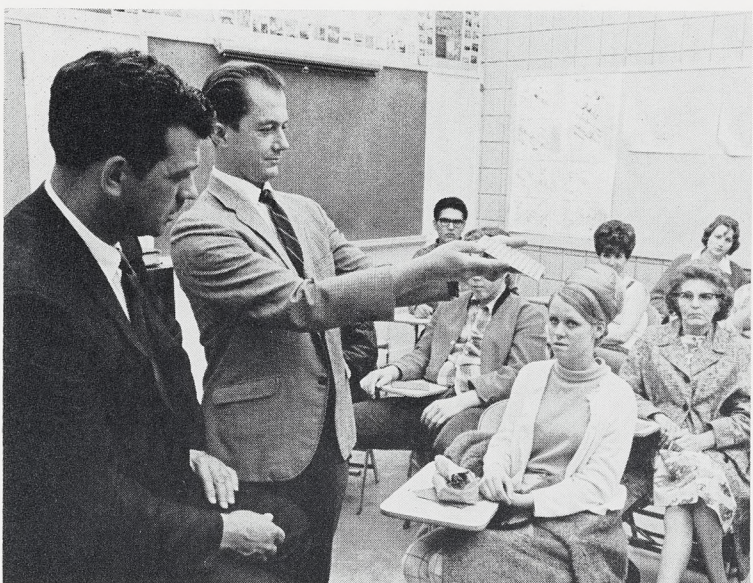


**EDUCATORS IN VISIT** — Carl Shoesmith (left) and Paul Stewart (right) show a 747 wing fairing plastic assembly to educators from the Ox-

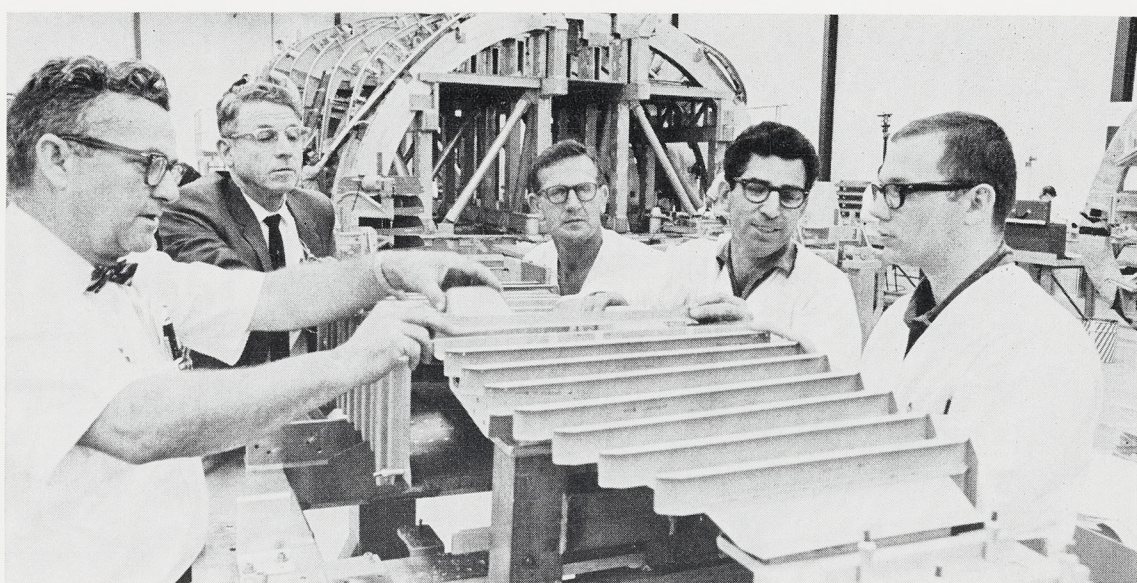
nard Union High School District's adult education division. They are Dr. John Renard and Cecil Schnelle.



**RIVETING INSTRUCTION** — D. Todaro (left) and Roland Hall (right) practice riveting. Instructing them is Andy Andrews. Both were hired after completing a production assembly class taught by Mr. Andrews. Mr. Todaro lives in Simi, and Mr. Hall lives in Newbury Park.



**PRODUCTION ASSEMBLY** — Al Robinson (left) and William Hopp teach a class in production assembly at Simi High School. Mr. Robinson is in Professional Development and Training.



**WING FAIRINGS** — Andy Andrews (left) and Bill Spencer check a 747 wing fairing assembly with (from left) Roland Hall, Oscar DeLaRosa

and Jim Ward. The three men were hired by Ventura while taking production assembly at Simi High School.



# NORTHROP NEWS

NORTHROP VENTURA

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April 10, 1968



**ANALOG COMPUTER**—This \$500,000 analog computer is one of the most recent acquisitions by the Engineering department at Northrop Ventura. The computer is more compact, more efficient, more accurate and more reliable

than earlier models. The new equipment reflects the desire of Ventura officials to streamline wherever necessary to keep pace with changing technologies.

## Functional Approach Provides Flexibility

### Project Overlay Techniques Prove Feasible in Engineering Department

By George C. Grogan  
Vice President  
Engineering

(Editor's Note: Following is the second in a series of articles dealing with change in the Engineering department at Northrop Ventura.)

In the previous article, we discussed the fact that Northrop Ventura's Engineering department has changed from project orientation to the functional-project overlay.

Although this distinction is clear to some, it is not necessarily understood by all.

#### Specialized Groups

By functional, we mean that certain groups are constructed to specialize in particular technologies and disciplines: stress analysis, laboratory test, liaison engineering, for example. Project overlay means that smaller groups are set up so as to follow the engineering all the way through development and into production for specific projects, such as Apollo, Mark 30 or MQM-74.

#### Talent Reservoirs

This functional-project overlay provides us basic reservoirs of skill in the main disciplines, and from these reservoirs we draw the men as they are required to follow through on specific projects.

Our decision to follow this path is based in part upon studies recently completed throughout

the country by many organizations involved in R & D contract work. Results indicate that this functional structure with the project overlay correlates with highest technical success, schedule and cost achievement.

Having the bulk of the technical strength concentrated in a functional organization affords depth in the basic sciences and engineering fields. Thus maximum talent can be brought to bear on project problems when they arise.

#### Work Increases

During the past two and one-half years, we have seen some violent changes in the manpower curve in the Engineering department. From a declining workload this past year, we turned a sharp corner in recent months.

The pileup of new contracts called for overtime, many holidays were deferred, and a number of weekends were devoted to getting the work out the door. It is our hope, and management goal, that such violent fluctuations were and are of temporary nature and that stability, or at least predictability, is now with us.

We have seen a marked shift in the skill mix of our department. Disciplines, never here before, now are commonplace. The educational level of our engineers has gone up significantly. This is simply a matter of sur-

(See **APPROACH**, page 6)

## Appointments Announced To Six Ventura Positions

Six Northrop Ventura men have been named to new positions.

George A. Kern is the new chief of the Product Service Assurance group.

Mr. Kern previously served as supervisor of the Systems Reliability branch at the Norair Division, project engineer for component evaluation and application at ITT Federal Laboratories, and designing of airborne digital computers and radar systems at Bell Telephone Laboratories.

Mr. Kern has a B.S. degree in electrical engineering from Newark College of Engineering.

Donald D. Warner has been appointed director of Design, Analysis and Test. He has previous experience with the Martin Company, North American Aviation and Norair. He holds a bachelor's degree in Aeronautical Engineering from the University of Min-

nesota and the Certificate for the Executive Program in Business Management from UCLA.

The new branch supervisor, Facilities Engineering, is Vinton L. Hunnicutt. Mr. Hunnicutt has an extensive background in facilities and plant engineering activity, including a California State License—General Contractor.

R. Paul Wood assumes the position of branch supervisor, Material Control, second shift.

Lester W. Shaw is the new supervisor of the Saudi Arabia Flight Operations branch. Mr. Shaw served previously as supervisor of Pacific Target Flight Operations.

Frank Fuchs has been reassigned as supervisor of the Value Engineering branch and temporarily as acting supervisor of the Human Engineering and Training branch.

## 25-Year Man Heads List of Award Winners

Seventeen Northrop Ventura employees became eligible for service pins this month, headed by one man with 25 years of service, and two with 20 years.

William Raikes, a field technical associate, started with Northrop on April 30, 1943, and transferred to Ventura on December 16, 1957. He is in Saudi Arabia on his current assignment.

Eldon Cook began work on April 19, 1948, and is a senior manufacturing engineer. Anthony Kleidosty, who began at Ventura on April 26, 1948, is a sheet metal mechanic.

Three men are eligible for 10-year pins. They are Wendell Chambers, Roy Edeen and Jacob Taddeo.

Five-year pin recipients are (See **SERVICE PINS**, page 6)

## 1,500 JOBS PER WEEK

## 'Repro', Release—A Fast-Growing Group

Question—what has 62 legs, works a 17-hour day, and performs an average of 1,500 jobs every week?

Answer — Northrop Ventura's Reproduction and Release branch, which is headed by Supervisor Doug Sessions.

The 62 legs belong to the group's 31 full-time employees. Many other Ventura employees are assigned to Reproduction and Release on a part-time basis.

And the 17-hour day extends from 7 a.m.—when the first day shift employees report for work—until midnight, when the last of the second shift crew leaves.

As recently as a year ago, Mr. Sessions recalls, the branch had only 18 full-time employees.

"But the growth of the Divi-

sion — both in new contracts gained and in new employees—has made it mandatory that we expand our operations to keep pace," he said.

Mr. Sessions' operations have expanded to the point that his branch handles an average load per day of 300 jobs. These include the offset printing of all the Division's forms, proposals and brochures; the reproduction and release of all engineering drawings on all of the Division's programs.

Most of these, Mr. Sessions said, are "rush jobs."

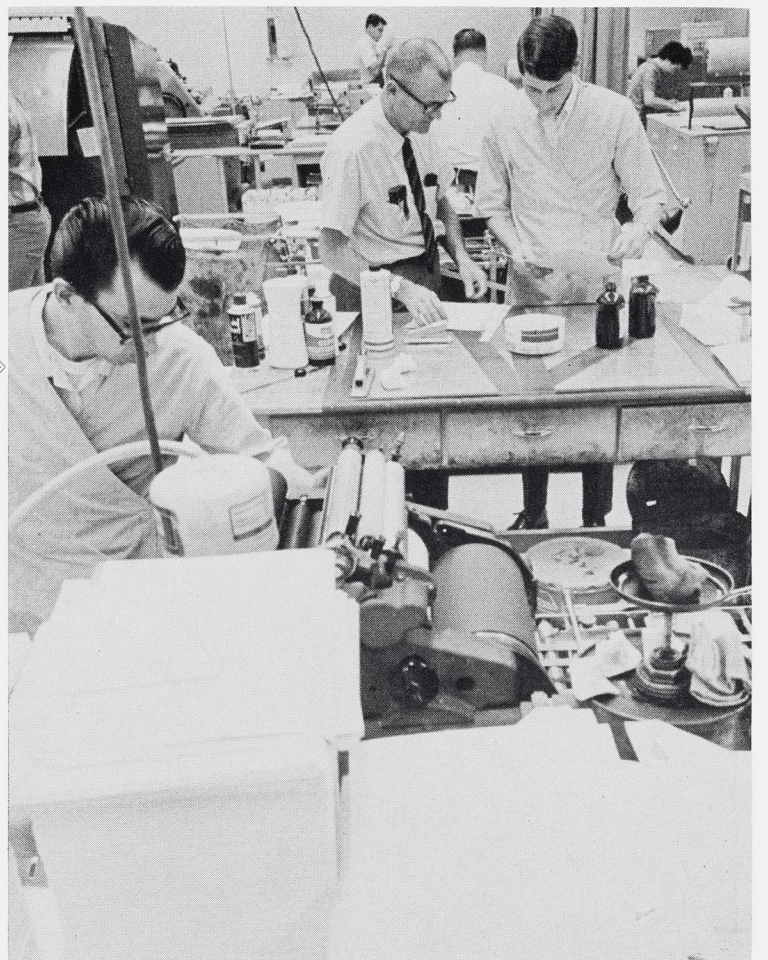
"Every program has rigid deadlines to keep up with," he said, "and it would seem that about 75 per cent of the orders we get are needed right away."

One of the biggest "rush jobs" involved the printing and mailing of a 2,300-page proposal on the Mark 30 Mobile Anti-Submarine Warfare Target.

Reproduction and Release employees received the proposal on a Thursday morning, knowing they would have to reproduce and mail 50 copies by late Saturday.

"We really had to schedule people around the clock to meet that one," Mr. Sessions said, "but we made it. We got the proposals to the main post office in downtown Los Angeles just before closing time on Saturday."

Five classifications are included on the Reproduction and Release payroll. There are duplicates (See **REPRODUCTION**, page 6)



**REPRODUCTION AND RELEASE**—Doug Sessions, supervisor of Ventura's Reproduction and Release branch, talks with employees during a typical busy work day. The number of employees in Reproduction and Release has nearly doubled in the past year from 18 to 31.



# Ventura's Young Receives Sloan Fellowship

Robert W. Young, manager of the Quality Assurance department at Northrop Ventura, has been selected as a Sloan Fellow for study of advanced management techniques at the Massachusetts Institute of Technology.

He was approved for attendance to the select 12-month program by Thomas V. Jones, Northrop president and chair-

man of the board, as part of the Corporate-wide program of management development.

Only 50 executives were accepted this year by the M.I.T. Sloan program from industry and government in the United States and abroad. Mr. Young will begin the course in June.

According to John Rushmer, Corporate director of Management Development, Mr. Young brings to five the number of Northrop executives who have completed or are taking advanced management seminar training at selected universities.

Other outstanding men with strong growth potential will be nominated in the future from the Northrop Corporate staff, operating divisions and subsidiaries to attend advanced management courses ranging from nine weeks to a year at such universities as Stanford, M.I.T. and Harvard.

Mr. Rushmer said that the special advanced university study is only one facet of Northrop's over-all program of upgrading management personnel in anticipation of greater responsibilities.

"The constant development of

quality professional business managers must be one of the prime activities on the part of all Northrop management personnel," Mr. Rushmer said, "both with regard to self-development and in the development of others reporting to them.

"Business management is a profession that has a body of defined knowledges and can be learned. For the most part, these knowledges will come from on-the-job experience.

"However," Mr. Rushmer added, "we must not ignore the opportunity for learning new ideas and techniques that come with change, and we must therefore make available to our managers the opportunities to satisfy certain needs which can come only from the universities.

"We have selected certain quality programs such as the M.I.T. Sloan Program and Program For Senior Executives, the Stanford Sloan Program and Executive Program, and the Harvard Advanced Management Program."

Because of the heavy demand for these courses of study throughout industry and government, and the resulting lead time required to obtain allocated space, Mr. Rushmer said efforts are being made to plan future participation on a five-year basis.

Outstanding young and middle executives may become eligible for the advanced study courses through nomination by the general managers of the various Northrop divisions and operating units. Their selection is based upon identified needs resulting from Management Development activities and their potential for advancement within the Corporation. Final approval of selections is made by Mr. Jones.

After approval by the Northrop president, the executive must then be accepted within the limited number of positions avail-

able in the chosen course of instruction. At this level, the Northrop nominees are in competition with executives not only from all of the American business world, but from the U.S. government and other nations as well. This



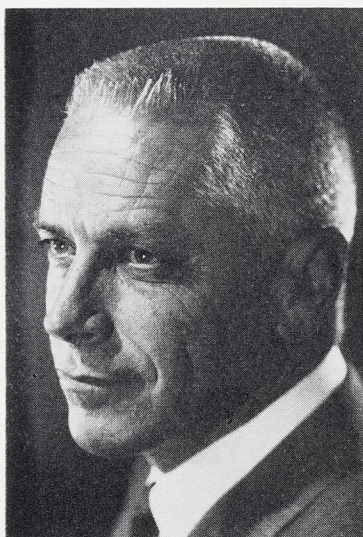
Mr. Harnett

Mr. Gasich

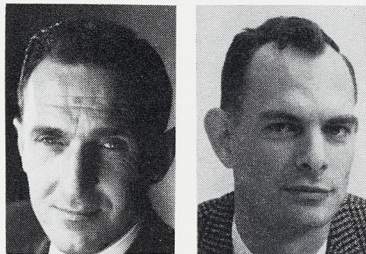
competition becomes particularly keen for a place in the more select classes such as the Alfred P. Sloan Fellowship program at M.I.T.

Others who are participating in, or have completed, special advanced management programs are Daniel J. Harnett, Corporate director of Contracts, Pricing and Programs; Welko E. Gasich, vice president and general manager of the Ventura Division; Robert L. Jennings, Ventura Division en-

(See SLOAN, page 5)



Mr. Young



Mr. Grogan

Mr. Jennings

## THREE 'ASTRONETTES'

### Girls Take Apollo 'Journey'

When you are 13 years old, inquisitive, ambitious and imaginative, a trip to the moon appears well within the realm of possibility.

At least Debbie Roberson, Georgianne Lamb and Penny Moran, Torrance elementary school students, think so.

They visited Northrop Norair recently for a look at flight simulators, the Model shop and wind tunnel complex, in the company of Norair's Nancy Yager, a friend.

A few weeks earlier they flew to Houston for a day-long tour of NASA's Manned Spacecraft Center.

Both visits were in preparation for a "moon trip" that began last Saturday and ends next weekend,

a seven-day, seven-night spin. It is aboard a three-fifths scale mockup of an Apollo spacecraft the girls have made and outfitted just for the "trip." They have one sleeping bag aboard, and packets of astronaut food supplied by one of their fathers, a bio-medical instrumentation engineer. Their only communication is via a two-way intercom.

The fact their spacecraft rests in the yard of one of their homes is of little consequence. They plan to document their feelings and thoughts and reactions in detail. Then they will compile a report and use it as part of a school science project.

The girls call themselves "Astronettes." Their spacecraft is named the "Geo-Deb-Ny" Apollo.

## Page's Carter Appointed as Vice President

W. Douglas Carter, who has been with Northrop's Page Communications Engineers for 11 years, has been named a vice president of the Northrop subsidiary.

Mr. Carter formerly was director of Program Management-Southeast Asia. He has been an engineer on Page programs throughout the world. As a vice president at Page's Washington headquarters, he will continue to work on the company's Integrated Wideband Communications System (IWCS). The IWCS links military sites in Vietnam—covering 470,000 circuit miles. It is the largest program ever awarded a single contractor by the United States Army Electronics Command.

## BARKLEY CHOSEN FOR TRAINING

Dick Barkley, a budget analyst at Northrop Ventura, has been chosen by the Air Force to participate in an Air National Guard Pilot Training Program, beginning next month.

Mr. Barkley, a second lieutenant in the California Air National Guard, received news of his acceptance last month. He applied for the program in 1965, but quotas are so restricted that only four Californians, in addition to Mr. Barkley, have been accepted in the past two years.

He is the nephew of Mary Lou Barkley, secretary to Dr. Donald Hicks, vice president and

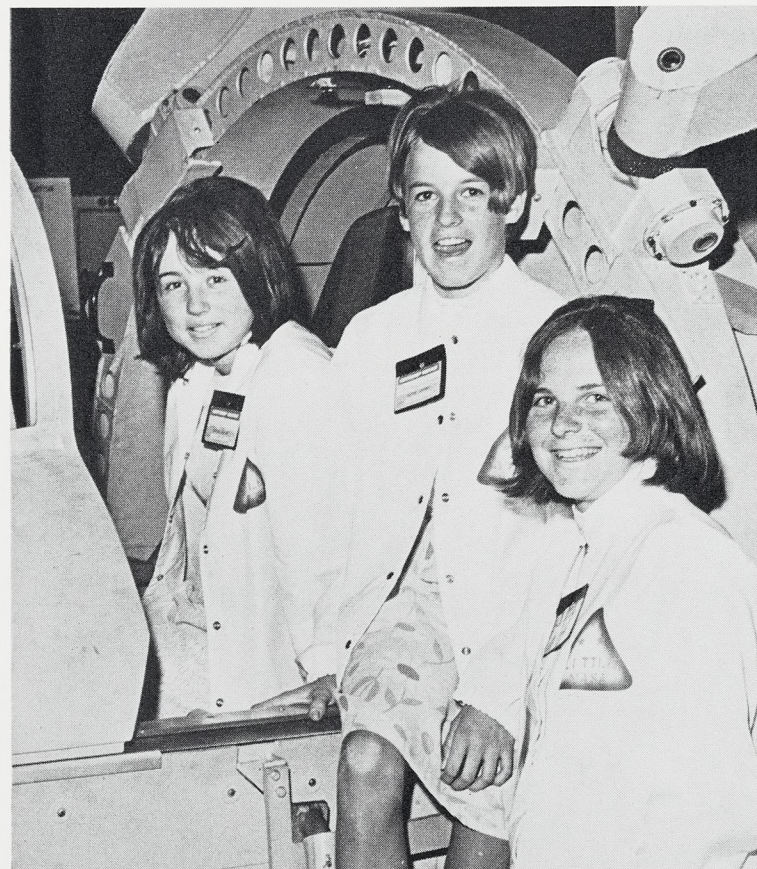
manager of the Corporate Laboratories.

Much of his training, Mr. Barkley said, will include flying the Northrop-built T-38 Talon jet trainer. The course is 53 weeks in length.

Mr. Barkley's father is Air Force Lieutenant Colonel Richard Barkley, who recently returned to the United States after duty at Tan Son Nhut Air Force Base in Vietnam.

The younger Mr. Barkley was selected after a series of examinations, including physical and aptitude testing. He is a 1966 graduate of the University of San Francisco, where he majored in marketing. Mr. Barkley, a bachelor, lives in Thousand Oaks.

He plans a career as a commercial airline pilot.



**MEET THE 'ASTRONETTES'**—At an age, 13, when most girls are far more involved in boys and clothes, this trio of Torrance elementary schoolers is building spacecraft replicas. They have visited NASA's Manned Spacecraft Center in Houston. They are (from left) Debbie Roberson, Georgianne Lamb, Penny Moran.



**WATCH THAT NOSE** — Georgianne Lamb tries the control of Northrop Norair's flight simulator as Debbie Roberson (left) and Penny Moran register interest in the flight display unfolding before them. This trio of 13-year-olds

has built a three-fifths scale model of the Apollo spacecraft and is spending Easter vacation enclosed in it to register their reaction to confinement for a school science project.





**FINANCIAL SEMINAR** — James Willson, Northrop vice president of Finance, talks with managers and directors in one of eight lectures

he delivered recently on financial matters. Officials from Norair, Nortronics, Ventura and the Corporate office attended the financial seminar.

## Executives Complete Financial Seminar

Norair, Nortronics, Ventura, Corporate Managers, Directors Attend Two-Day Course

Thirty-two managers and directors from three Northrop West Coast divisions and the Corporate office have completed the first in-plant seminar on Finance for Non-Financial Executives.

The two-day lecture-discussion seminar was conducted by James Willson, Northrop vice president of Finance, as part of a continuing, multi-faceted Corporate Management Development program.

Included in the eight lectures delivered by Mr. Willson were such subjects as profit planning and budgeting, return on investment concepts and applications, and use of financial data in decision making.

The over-all objective of the seminar was "to improve the awareness of management level people of the 'big financial picture' and the effect of the line manager's actions on profit."

Responses of the Norair, Nortronics, Ventura and Corporate participants to the seminar ranged from "good" to "excel-

lent." The seminar was developed by the Corporate Management Development programs office in response to a common need identified throughout the corporation.

### IT'S A FACT AT NORTHROP

Many people think of Northrop as an aircraft company. It's true that design and production of aircraft represents the largest single category of Northrop business—about 45 per cent of the total. But, Northrop is more accurately described as a diversified aircraft, communications and electronics company.

Next to aircraft, communications represents Northrop's largest area of business. Northrop is a leading supplier of communications systems and communications components. Much of Northrop's communications business is carried on by the company's wholly owned subsidiary, Page Communications Engineers, Inc., with headquarters in Washington, D.C.

While the major part of the company's communications work is carried on by Page, communications capabilities and projects are active in many parts of the company. All three operating divisions—Nortronics, Norair and Ventura—have communications projects. In addition, the Hallcrafters Company—Northrop's Chicago-based subsidiary—is a leading supplier of communications equipment.

Altogether, Northrop communications business amounts to more than \$110 million a year.

### Norair's Wilhem Honored

Northrop Norair's David Wilhem has been elected to the main committee of Committee E-24 on Fracture Testing of Metals, American Society for Testing and Materials.

Mr. Wilhem is a senior engineer in Research and Technology's Structures and Dynamics organization.

### WORK EXPERIENCE

## School Project Continues

In the spring of 1965, Northrop Norair cooperated with the Los Angeles City School District in establishing an experimental program known as Exploratory Work Experience Education (EWEE).

In its continuing support of the pioneering effort, Norair has phased 175 students through the program, including nine presently involved.

Primary objective of EWEE is to provide high school students an opportunity to gain practical experience in industry as a part of their educational process.

### Softball, Slo-Pitch Teams Forming

Softball season is here again, and NRC is offering action to suit any taste through teams now in practice that will launch league action in May.

Approximately eight teams are set to enter regulation softball leagues in the South Bay area under the NRC banner. Many need players, especially pitchers.

And for those who like slower action, there are Slo-Pitch leagues, one on Tuesday with a 12-inch ball, another on Wednesday with a 16-inch ball.

Contact Personnel Activities for information.

Currently, six major industrial firms in addition to Northrop are taking part in what is now regarded as a highly successful project. The six firms are: Western Electric, McDonnell Douglas, IBM Corporation, Litton Industries, Pacific Telephone and AiResearch Corporation.

Dorsey, Manual Arts and Washington high schools send students to Norair on a rotating basis. At present, students from Washington are in the midst of a 10-week training period at Norair.

Those taking part are assigned to various work areas. Girls, for example, work in such functions as the Engineering Library, Mailroom and Personnel, while the boys work primarily in electrical and mechanical assembly operations.

Students spend two hours a day for two weeks in each department before being reassigned to another department to broaden their perspective of the total business environment.

While students are not paid for their work, they do receive grade points required for graduation. Each student is graded on his or her attendance, work habits, cooperation, appearance and attitude while in each assigned Norair work area.

## Mountaineers Set Weekend Hikes, Camping Trips

Northrop Recreation Club members, through their affiliation with the Northrop Mountaineers, may participate in any or all activities of the Sierra Club.

For example, three events are planned for the next three weekends. Contact the group leader for information.

On Saturday and Sunday, a car camp at the Calico Diggings, east of Barstow near Yermo, is planned, either as a one-day or campout. Mike Clodt, 714-892-9160, is the leader.

On April 20-21, a car camp and peak climb in the Cuyamaca Rancho State Park is set. Bruce Collier, 436-9211, is the leader.

On April 21, a Sunday local hike is planned off the Angeles Crest Highway. Kay Thomas, 664-7552, is the leader. A second Sunday hike will be held April 27 at Saddleback Buttes. Contact Wally Henry, 805-944-1632.

### Ice Show Seats on Sale

Bargain-rate tickets are still available at Northrop outlets for the 5 p.m. May 5 performance of Ice Capades at Los Angeles Sports Arena. Regular \$5 reserved seats are available for \$3.50.

## Bond Drive Participation Urged

The 1968 payroll savings campaign for U.S. Savings Bonds has begun throughout the United States with a national goal of signing up two million Americans as new savers or for increased payroll savings.

Northrop President Thomas V. Jones said this week he has pledged Northrop's complete support for the Savings Bond campaign to the national aerospace chairman, J. L. Atwood, president of North American Rockwell Corporation.

"A great number of our people are already subscribing to savings bonds," Mr. Jones said. "I hope they will find it possible to increase their subscriptions, and, of course, if we are to make a good showing it is most important that those who are not now in the program sign their pledge cards as new subscribers."

Facilities coordinators of this year's campaign are Ken Terry, Harry Belcher and Harry Clark of Nortronics; Dick Carroll of Norair; John Via of Ventura; Deane Haddon of Northrop Corporate Laboratories; and Bob Weiss of the Corporate offices.

As in the past, line supervisors will be the focal point of the campaign and will per-

sonally contact employees under their supervision. Signup cards will be available in all departments.

Following are excerpts from President Johnson's message to the 1968 national committee, headed by William P. Gwinn, president of United Aircraft Corporation:

"Our unparalleled prosperity can be sustained and extended by common effort. We can each enlarge our own prosperity, and invest wisely in the future, by buying U. S. Savings Bonds and Freedom Shares.

"With a few dollars, we can help safeguard all our salaries and savings from inflation. We can keep the American dollar strong when all the world looks to its strength for security.

"We may also see each bond we buy as a bulwark of our freedom. Our sons in Vietnam purchase them in that spirit. We can do no less than support our fighting men with matching contributions to the cause of peace.

"Maximum participation is more than our goal. It is an opportunity and duty in which every American must be proud to share."

and now for a feat of magic... I can add \$20.25 to \$18.75 and get \$50.00

**still life**®

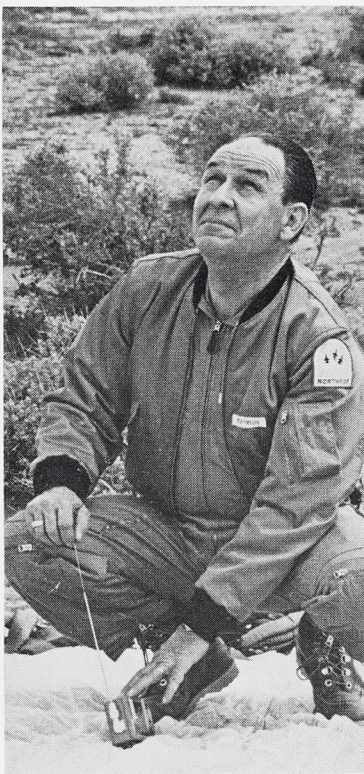
big deal! I can do that by buying the new Freedom Share Savings Bonds Combo. It costs \$39.00 pays \$50.00 at maturity.

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**NEW DIRECTIONAL SYSTEM**—Northrop's search pilot installs compact direction and signal strength meter instrument on to search airplane's instrument panel before takeoff to locate simulated downed aircraft. Left indicator guides flight direction. Right indicator shows downed aircraft's signal strength, nearness.



**'LOST' IN THE DESERT**—Dick Fields, a Northrop employee, prepares to activate a transmitter which sends distress signal to search airplane.



**AT THE CRASH SITE**—In a simulated rescue, a pilot signals with a smoke flare to a search plane. The pilot, a Northrop employee, was found with the aid of the newly developed downed aircraft locator system, a lightweight, portable unit which will fit into virtually all aircraft.

## The Airborne Search Receiver—New Life for Pilots

Northrop Corporation has developed a lightweight airborne search system, about the size of a cigar box, that can easily be installed in a civilian aircraft to locate private airplanes downed in remote areas. In tests with the new receiver, Northrop pilots have consistently located simulated crash sites from distances up to 150 miles.

In actual search and rescue operations, the small, seven-pound Northrop Ultra High Frequency search system receiver will pick up distress signals emanating from a small transistorized transmitter (crash locator beacon) in the wing-tip or tail of a downed aircraft. The transmitter is designed to begin sending a continuous signal, up to a distance of 150 miles, on impact. If necessary, the transmitting device is also lightweight enough to be removed from the crashed air-

plane and hand-carried by a downed pilot.

The signal received by the Northrop system on the search airplane activates a left-right "finder" gauge and a signal strength indicator in the pilot's compartment. Simultaneously, an audio signal is also received by the search pilot and grows in volume as he flies toward the downed airplane. With the system, air-to-ground visibility is not mandatory for locating crash sites.

The Federal Aviation Administration recently announced that it is considering proposing legislation that would require all private pilots to carry crash locator beacons. The FAA said in its announcement that it has previously resisted such regulatory action largely because of the unavailability of a satisfactory airborne search system to receive distress

signals from these portable transmitter beacons.

Pointing up the need for widespread use of civilian search and rescue systems, such as the new Northrop device, the FAA reports that since 1957 in nine western states, 35 private airplanes carrying 66 people have disappeared without a trace. Nationally, in 1965 alone, the latest year for which statistics are available, there were 299 fatalities resulting from 119 civilian aircraft crashes. Twenty-seven of these airplanes have never been found.

The Northrop search system can be used by most of the smallest private airplanes. The company's own aircraft are fitted with the new receiving and search equipment, which has been refined by company engineers over a period of about nine years to achieve a portable, reduced-size package compact enough to stow

behind the pilot's seat when not in use.

Northrop began development of its airborne search system several years ago when one of the company's pilots, fatally injured, could not be found until nine days after his plane crashed. There was no crash locator beacon on his airplane nor receiving equipment available for the search aircraft.

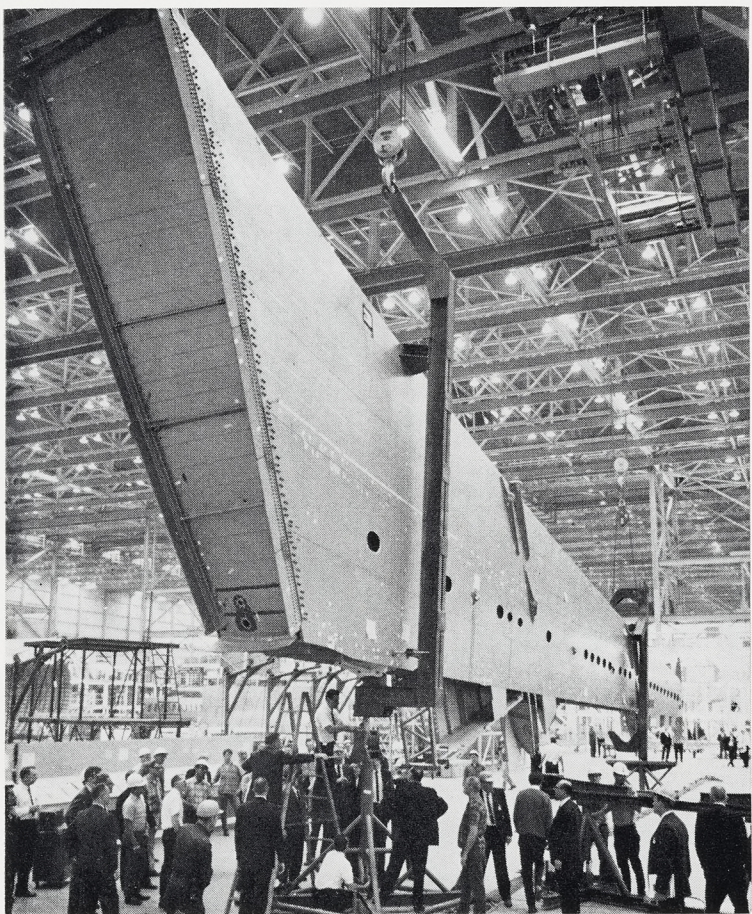
As a result of that accident, Max Stanley, Norair chief of Flight Operations, began the development of the new airborne search receiver recently perfected by Northrop.

It is foreseen that the new Northrop receiving equipment could be installed permanently in commercial transport aircraft to enable crews to pick up distress signals of downed aircraft and radio the location of the wreck-

age to the nearest airport where another receiver-equipped airplane could take off immediately to "home in" on the precise location of the crash and instigate rescue operations.

Following the much-publicized crash of the three-member Oien family in Northern California last year, it has since been determined, at least 59 scheduled airline flights daily, or a total of 2,890 commercial airliners, flew over or near, but failed to see, the wrecked airplane during the seven weeks that the mother and daughter survived the crash. The wreckage and bodies were finally found by a deer hunter only eight miles from busy U.S. Highway 299 five months after the crash. The FAA also notes that many pilots do not file a flight plan, making the search for their air-

(See SEARCH, page 5)



**FIRST COMPLETE WING**—The first complete wing for the Boeing 747 is removed from its jig at the company's plant in Everett, Washington. The wing is 105 feet long, approximately 30 feet across, and six feet high where it joins the fuselage. Northrop is building a 153-foot section of the fuselage.

### Ticket Sales Continue For Disneyland Night

Ticket talk is a top topic throughout Northrop Corporation this week for those who do not want to be left out May 25 when Disneyland reserves all of its fabulous facilities just for Northrop families.

The price is \$3.75 per person, including admission and unlimited use of all facilities, except shooting galleries, from 8 p.m. to 1 a.m.

But Northrop is limited to the number of tickets it can make available. That's why those who want to be sure are buying early at all Personnel Activities outlets.

### Sports Car Club Plans Disneyland Time Rally

Here's a special feature for sports car buffs, a "Disneyland Special" offered by the Northrop Sports Car Club for 5 p.m. May 25.

That is sufficient time for entries to run a time and distance rally and wind up at Disneyland in time for NRC Night. The cost is \$9 per car, which includes two tickets to the Disneyland event. Additional tickets are available.



**ORIENTATION FLIGHT**—Brigadier General C. W. Carson, jr. (left), chief of the Air Force's Military Air Advisory Group in Southeast Asia, talks with Northrop's Hank Waklee after completing his first F-5 flight, at Williams Air Force Base. General Carson took a total of 10 flights in the F-5 checkout course.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale	
Mercedes Benz, 190 SL, \$995. 373-1395.	A
Cadillac, 1964 Fleetwood, full power, air cond., \$2,100. 340-2137.	A
Rambler, 1963 440 American, r/h, w/s/w, o/drive, low mileage, \$650. 714-830-0418.	A
Volkswagen, 1963, \$925. 837-9264.	A
Cadillac, 1965 convt., 35,000 mi., air, AM-FM, new tires, brakes, & shocks, \$3,100. 325-9759.	A
Mustang, 1965, 2+2, 34,000 miles, \$1,550. 532-7095.	A
Pontiac, 1937 2-dr. coupe, \$225. 678-6027.	A
Corvair, 1961 4-dr., stick, \$100. 370-7121.	A
Pickup Truck, 1951 Ford, 6-cyl., 3-spd., \$200. 644-3429.	A
Corvair, 1960, \$350. 372-8019.	A
Shelby GT, 1967 500, p/s, p/b, auto., 428 cu. in., LeMans eng., \$3,900. 675-1365.	A
Camper Van, 1967 Chev., 50 lb. icebox, sink, V-8, hvy. duty equipped, \$2,900. 672-4231.	A
Volkswagen, 1959, convt., r/h, \$400. 393-7464.	A
Station Wagon, 1965 Sunbeam, 4-spd., \$400. 676-5194.	A
Cadillac, 1964 sedan DeVille, 6-way p/seats, full power, fact. air cond., AM-FM radio, \$2,100. 377-8837.	A
Ford, 1938 w/'62 Chev. eng., 283 4-barrel, solid lifters, cam, 3-spd. Ford trans., \$300. 328-2287.	A
Falcon Futura, 1965 2-dr., V-8, stick shift, 20,000 miles on eng., \$1,200. 378-1771.	A
Karmann Ghia, 1967 4-dr., air cond., r/h, 6,500 miles, \$23,000. 676-7661.	A
Karmann Ghia, 1962, \$650. 375-9974.	A
Dodge, 1966 Coronet 500, 2-dr. h/top, fully equipped, Dunlop SP-41 radials, \$2,350. 456-2690.	A
Ford, 1940, new paint, chrome whls., orig. eng., floor stick shift, good tires, \$500. 869-5319.	A
Station Wagon, Plymouth, 1960, 7,000 miles since eng. & auto. trans. rebilt., p/s, p/b, \$235. 328-7906.	A
Mercury, 1962 Meteor, 2-dr., stick shift, 45,000 miles, \$750. 534-9545.	A
Plymouth, 1966 Formula S Barracuda, p/s, p/b, air, auto. torque, recently repainted, \$2,000. 676-3930.	A
Buick, 1960 Electra, 4-dr. h/top, full power, \$275. 714-838-3040.	A
MGA, 1961 Roadmaster, 1600 series, wire wheels, rebilt. eng., new paint, \$875. 376-6415.	A
Mustang, 1966, 2+2, 4-spd., many extras, \$2,395. 377-7670.	A
Thunderbird, 1967, all extras inc. a/c, AM-FM radio, new tires, \$3,300. 451-2655.	A
Mustang, 1966 h/top, 6-cyl., 200 cu. in., auto. trans., r/h, \$1,850. 714-847-3249.	A
Ford, Galaxie 500, 1966, 2-dr., b/seats, air, p/s, p/b, r/h, \$1,975. 349-4772.	A
Dodge, 1965 Polara, V-8, auto., 4-dr., r/h, \$650. 377-6352.	A
Chevrolet, 1955 2-dr., auto. trans., \$350. 831-2878.	A
Electric Car, Autoette, needs new batteries, \$400. 325-7154.	A
Ford, 1965 w/10' Kamp King camper, fully self-contained, many extras, \$4,100. 326-1178.	A
Dodge, 1963 Polara, 2-dr. h/top, p/s, p/b, r/h, \$800. 532-5114.	A
Chevrolet, 1963 Bel Air, 4-dr. sedan, auto. trans., p/s, w/w tires, new radiator, \$850. 473-3168.	A
Cadillac, 1957 Eldorado DeVille, padded top, full power, air, 36,000 miles, \$400. 541-1321.	A
Corvair Monza, 1962 coupe, 4-spd., \$400. 645-0589.	A
Chevrolet, 1957, 4-dr., rebilt. 283 eng., new seat covers, \$400. 372-2793.	A
Corvair, 1962, \$325. 454-9797.	A
Station Wagon, Rambler Ambassador, V-8, p/s, p/b, p/w, r/h, \$350. 769-3345.	A
Hillman, 1959 Minx, 4-dr., may need ignition switch, \$150. 635-5039.	A
Triumph, 1961, TR-3, \$695. 342-2346.	A
MG 1100, 1963, rebilt. eng. & trans., \$300. 714-962-5325.	A
T-Bird, 1964 Landau, air, \$1,895. 375-0361.	A
Buick, 1965 Riviera, air cond., p/b, p/s, \$2,000. 831-1375.	A
MG Midget, 1962, 38,000 miles, r/h, soft top, tonneau cover, \$700. 325-1190.	A
MG Midget, 1964, low mileage, wire whls., heater, \$800. 322-7869.	A

Household Items For Sale	
Crib, walnut, \$30. 835-3869.	B
Washing Machine, Kenmore, \$25. 370-4475.	B
Table, 32x32, glasstop, wrought iron, 4 chairs, leaf pattern, \$45. 393-2373.	B

Household Items For Sale	
Sewing Machine, elec. portable, \$35. 324-1237.	B
Crib, mattress, 6 yrs. old, \$10. 376-8014.	B
Washing Machine, front-loading, \$20. 320-3440.	B
Refrigerator, lge., 3 yrs. old, \$100. 370-4148.	B
Youth Bed, modern, girl's, w/box springs & mattress, \$20. 323-6745.	B
Dinette Set, 7-pc., deluxe, chrome, Virtue Bros., \$65. 677-5474.	B
Range, Gaffers & Sattler, auto., gas, copper-tone, chrome top, dble. oven, rotisserie, \$170. 714-827-3217.	B
Beds, twin size, box spring & mattress, \$20. 372-3827.	B

Miscellaneous For Sale	
Cemetery Lot, Park View, Inglewood, \$550. 753-7484.	C
Motorcycle, 1962 Tohatsu, 50 cc, stripped for dirt, \$65. 676-5262.	C
Home, 4-bdrm., all-elec. kitchen, o/sized service porch, sprinklers, 1/2 mile to schools & shopping, \$45,500. 377-6426.	C
TV, Zenith 23", b&w, console, walnut, wireless remote control, \$100. 582-1079.	C
Motorcycle, 1964 Triumph Cub, 200 cc, 4-spd., \$350. 324-8960.	C
Piano, remodeled, upright, \$125. 714-635-5304.	C
Watch, Rolex, new band, waterproof, \$39. 596-0521.	C
TV, Packard Bell console, 21", blonde, \$25. 534-2419.	C
Speed Boat, 14' Merline, Mercury Mark 55 outdb. motor, trailer, complete w/controls, windshield, \$595. 425-0581.	C
Condominium Apt, 2-bdrm. & den, 2 baths, pool, rec. room, 5 min. to Nortronics, \$35,950. 377-7460.	C
Boat, 1951 Owens, 34', twin engs., 6 cyl. Palmers, flying bridge, S.S. radio, sleeps 5, \$9,000. 867-1476.	C
Bicycle, Schwinn Sting Ray, \$20. 883-0093.	C
Camera, Leica, 50, 90 & 135 mm lenses, \$99. 379-4075.	C
Piano, full keyboard, \$200. 675-7729.	C
Bicycle, girl's standard 24", \$10. 328-3306.	C
House, 3-bdrm., in Lawndale, extra bldg. in rear, 8'x30', 10 min. from Norair Hawthorne, \$19,950. 370-7742.	C
Boat, 15', fiberglass hull, 45 h.p. outdb. elec. start, auto. bailing, eng. o/hauled, many extras, trailer, \$750. 371-3753.	C
House, 3-bdrm., 2 baths, cpts., dps., fenced yard, dble. gar., 10 min. to Norair, \$24,500. 327-6849.	C
Outboard Motor, Homelite, 55 h.p., 2 props, tack, controls, low time, \$700. 805-947-6453.	C
Apt Units, 2, in Inglewood, terms, \$25,500. 673-4475, 292-8053.	C
Dirt Bike, Yamaha, 1965, 80 cc, expansion chamber, Honda front end, \$250. 376-3525.	C
Auto Cooler, 6 volt, plug in at cigarette lighter, \$20. 833-2512.	C
Guitar, Kama, classic, \$55. 676-5291.	C
Tent, 11'x11', orange color, outside poles, shade o/door, 3 windows, \$50. 370-1054.	C
Rings, engagement & wedding, 3/4 carat total weight, set in white gold, \$200. 322-5930.	C
Stereo, Zenith portable, det. speakers, stand, \$35. 644-1958.	C
Honda 90, C200, \$135. 831-4586.	C
Trailer, Pacemaker, 28', \$600. 329-7218.	C
Stereo, Grundig-Majestic, record player, tape deck, & recorder, \$500. 677-3260.	C
Building Lot, o/looking Lake Elizabeth, on paved street, electricity, water, 10% dn., \$4,150. 947-8389.	C
Dog, collie, male, 3 yrs. old, AKC, papers, sable & tri, \$125. 714-524-0889.	C
Ham Transmitter, Eico 720 & crystals; VFO, Eico 723, \$70. 867-0662.	C
Surfboard, 9' custom Jacobs, \$40. 372-1681.	C
Air Conditioner, General Electric Thinline compressor-type w/G.E. steel porta-cart, 7,500 btu, \$100. 714-528-7636.	C
Piano, baby grand, Emerson, mahogany finish, bench inc., \$550. 375-8778.	C
Pups, fox terrier, part toy, 2 females, 1 male, \$10 ea. 374-5133.	C
Sailboat, 11', all extras, \$375. 325-4094.	C
Lot, lake view, new boat slip, Bass Lake, on quiet, secluded cove, level lot, nice timber, \$750 dn., \$50 mo., \$3,500. Box 701.	C
Camera, 35 mm Leica III f., Nikkor 1.4 lens, speeds to 1/1000 sec., self-timer, flash gun, filter, case, \$115. 714-626-1597.	C
Acreage, in Lancaster, 2 1/2 acres of farmland, \$1,500 dn., \$50 mo. inc. 6% interest, \$5,500. 375-7130.	C
Honda 250, dirt bike, rebilt., knobbie tire, \$250. 363-3843.	C
Motorcycle, 1966 Yamaha, 250 cc scrambler, all custom, all chrome, many extras, \$350. 371-5261.	C
Reducing Machine, Stauffer, \$45. 324-8618.	C
Lot, 9/10-acre, Lake Los Angeles, take over \$44 mo. pymts., \$2,000. 672-4450.	C
Lot, 82 1/2' x 330', near Lake Isabella, level, water, electricity, \$100 dn., \$30 mo., \$2,750. 714-532-1361.	C
Yamaha 60, 1966, \$150. 370-5316.	C
Varityper-DSJ, 8 type fonts, inc. math & script, supplies, \$275. 479-1432.	C
Acreage, improved 1 acre, at Lake Los Angeles, \$5,290. 805-526-7767.	C

Miscellaneous For Sale	
Pups, basset tri-colored males, AKC, wormed & shots, \$75. 830-3816.	C
Boat, 14' Cataraman, 2 35 h.p. Mercury, elec. start, trailer & tarp, \$750. 675-3254.	C
Wedding Gown, size 8, bouffant lace, long sleeves & train, \$55. 714-527-3451.	C
Tires, 2 13x6, 4-ply, \$6. 672-2370.	C
Building Site, 1/2 acre in Agoura, gentle slope, horses o.k., water, electricity & phone, \$8,500. 783-8271.	C
Motorcycle, Triumph, 1955, 650 cc, lots of chrome, \$600. 675-1821.	C
Engine, 289 & auto. trans., for 1967 Ford, \$450. 635-2826.	C
Saw, radial arm, DeWalt, stand, circuit breaker, adjustable blade, 220 volts, \$50. 714-962-5493.	C
Ski Boat, 16' Tahiti, Schuster, 1967, 110 h.p. Merc. motor, take over \$73 mo. pymts., \$1,960 bal. 631-4312.	C
Camera, 35 mm, German Edixa reflex w/135 mm focal length lens & carrying case, \$55. 323-8797.	C
Acreage, 5 acres in Antelope Valley near Willow Springs, \$35 dn., \$35 mo. inc. 6% interest, \$3,500. 378-1026.	C
Sloop, 19', mahogany, sleeps 4, \$500. 675-3578 before 8 a.m.	C
Lathe, wood-type, 8-spd., stand, accessories, \$75. 944-5946.	C
Home, 2-bdrm., new roofing, paint in & out, h/wood floors, 15 min. from Northrop, \$19,950. 754-3554.	C
Golf Clubs, 1, 2, 3, 4 Wilson X31 woods, 2-9 McGregor tourney irons, bag boy cart & Wilson compartment bag, \$150. 346-7830.	C
House, 2-bdrm., near El Camino, avail. Aug. 1, \$21,500. 329-4576.	C
Guitar, Fender deluxe, \$250. 326-6195.	C
Slip Lot, Salton Sea, lot for house & sep. boat dock on channel, roads & utilities in, south side of sea, pvt. party, near yacht club, \$7,100. 714-535-1694.	C
Lots, 2, Oakwood Cemetery, on hillside, Chatsworth, \$305 ea. 343-7880.	C
Window, aluminum, 10x3 ft. oxo w/screens, \$15. 377-2816.	C
Boat, 12' British Avon inflatable-type, nylon & hapalon material, 4 air chambers, high pressure tubes, other access., \$350. 379-3487.	C
Corner Lot, in Thousand Palms, 90.03 long, 47.53 wide, 6 1/2 miles from Palm Springs, \$2,400. 675-6103.	C
Radio, for auto, Motorola, 12 volt, transistor-powered, enc. speaker, under-dash model, \$10. 375-7038.	C
Racing Tires, 2 Firestone Super Sport Indys, size 8:10x15, fit VW stock rims, \$60. 329-4837.	C
Motorcycle, Honda, 150, \$250. 325-3724.	C
Honda, 160 cc, 1965, 4-spd., recently rebilt. eng., new carbs, \$400. 378-0603.	C
Typewriter, Royal portable, manual, 12" carriage, elite type, \$90. 429-7514.	C
Pool Table, 7', slate, new top, \$350. 323-2502.	C
Drum Set, pearl, 4-pc. w/Ludwig access., \$90. 371-8907.	C

Wanted to Buy	
File Cabinet, 2 or 3 drwr., legal size. 671-1012.	D
Lapidary Equipment, good, used. 377-8817.	D
Mobile Home, must be 2-bdrm., 12' to 20' wide. 376-3384.	D
Tires, 4, size 4.40x12. 327-4585.	D
Speaker for antique Atwater Kent radio Model 42. Must be in operating condition. 379-0971.	D
Metal Locator, transmitter/receiver, single head type. 677-3920.	D
Air Compressor, with or without motor for car painting application. 370-7092.	D
Washing Machine, in working order & power mower, reasonably priced. 644-2607.	D
Encyclopedia Britannica, 1961 or later, including yearbooks. 714-892-5801.	D
Tape Recorder, reel-type, 4-track, stereo. 329-1705.	D
Trailer for 17' ski boat. 374-3702.	D
Dryer, gas, preferably Kenmore. 328-7048.	D
Dance Records, 45 r.p.m., in good condition. 752-7995.	D
Playpen, mesh, in good condition. 756-3782.	D

For Trade	
House Trailer, 1960 Nashau, 10'x50', furn. w/extra freezer, washer & dryer, air cond., trade for chassis mount for late model truck-camper, o/head preferred. 677-6712.	E

Free (To Be Given Away)	
Dog, male beagle. 644-2717.	F

Rentals Offered	
Apt, 2-bdrm., 2 baths, upper, adults, no pets, cpts., dps., bltins, pvt. patio, carport, \$140. 676-9492.	G
Vacation Cabins, Lake Gregory & Crestline, sleep 6, make reservations for June through Sept., \$25 w/ends; \$60 wk. 391-2040.	G
Home, on North Shore, Lake Arrowhead, 3-bdrm., rumpus room, 2 baths, 2 families OK, \$24 night; \$34 w/end; \$150 wk. 476-1842.	G
Cabin, Green Valley Lake, \$25 w/end; \$45 wk. 324-0649.	G
Apt, deluxe 2-bdrm., furn., lge. pool & patio, closed gar., near El Camino, adults, \$165. 329-5986.	G

Rentals Offered	
Studio Apts., 2 & 3 bdrm., under const., ready by June 1, cpts., dps., all elec., pvt. patios, many extras, no pets or children under 12, \$165-\$275. 326-4944.	G
Cabin, Green Valley Lake, \$35 w/end; \$55 wk. 320-2002.	G
Cabin, Lake Arrowhead, modern, 200 feet from lake, \$100 wk. 375-2255.	G
Apt, 1-bdrm., near King Harbor, cpts., dps., bltins, piped music, bltin vacuum, gar. w/ storage cabinets, \$120. 372-8835.	G

Rentals Wanted	
Apt, 1-bdrm. or house, furn., must be within walking distance of Plant I. 679-1206.	H

Child Care	
Child Care offered, 1 child, my home, licensed, hot lunches, fenced yard, reasonable. 676-1036.	I
Child Care offered, a hot lunch, vicinity Lincoln & Manchester. 670-0372.	I

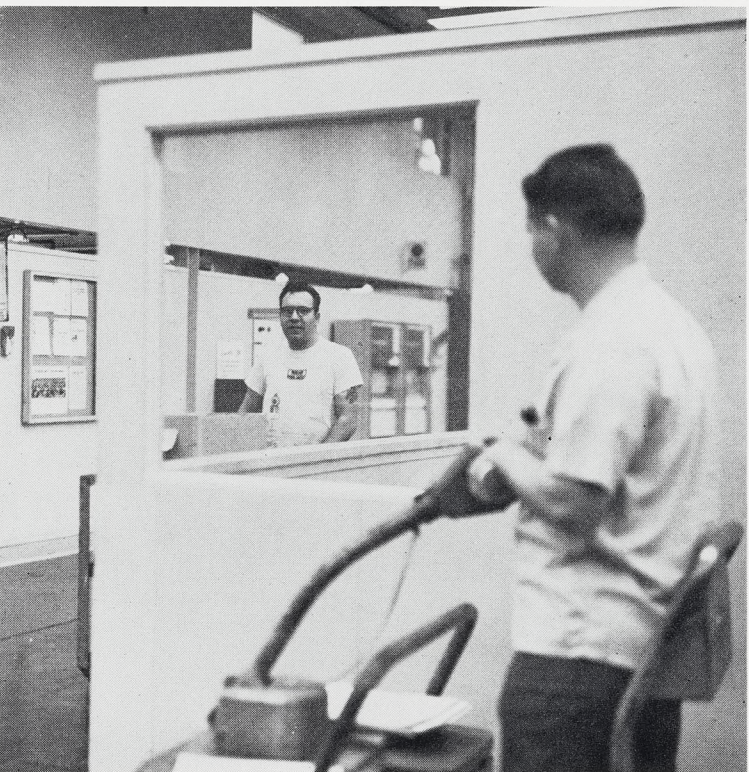
Personals	
I wish to express my appreciation & thanks to all my friends for the wonderful gifts, cards & phone calls, during my illness. ESTHER LE DOUX.	L
Gratefully acknowledging & thanking all of you for your kind expressions of sympathy in the passing of my mother. AL TUCKER.	L
I want to thank my friends at Northrop for the cards & messages of good will during my recent illness. BOB ZUTAVERN.	L
Please accept our sincere thanks & appreciation for the cards, flowers & expressions of sympathy in the loss of our husband & father, Charlie Bearden. JUANITA BEARDEN & SON, CHUCK.	L
Sincere thanks to all my friends at Norair for the kindness extended to me during my recent illness & convalescence. The flowers, cards & calls were greatly appreciated. TOM RYAN.	L
Young Man wanted to cut & water lawn weekly, Norair Hawthorne vicinity. 676-8817.	L

For Sale or Trade	
Renault, 1962, sporster wagon, 4-dr., new truck, \$225 or trade for 3/4-1 1/2 ton truck. 631-8333.	M
Refrigerator, Servel, 2 1/2 yrs. old, \$39, or trade for TV, portable. 644-6198.	M
Machinist's Tools, Starrett, \$250 or trade for motorcycles, guns, mechanics tools, cameras, musical instruments of equal value. 866-2079.	M
Home, stucco, in Inglewood, 3-bdrm., 2 baths, den, cpts., h/wood flrs., 2-car det. gar., patio, b/wall fence, \$9,000 equity, \$26,000 or trade for land or home in Malibu Canyon or Thousand Oaks area. 671-8401.	M

SEARCH  
(Continued from page 4)

plane, if it is forced down, exceedingly difficult since such survivors cannot transmit their positions, and the route of their flight and destination are unknown.

Other predicted applications of the search system may include finding and rescuing lost boaters, stranded skiers or mountain climbers, and tracking criminals by teams of air and ground law enforcement agencies.



SAFETY WINDOW — Les Grahorn, a member of the Safety Committee at Northrop Norair, is framed in a new safety view window along a main aisle in Plant One. Mr. Grahorn suggested the installation of the window to eliminate a dangerous blind corner. Committee members submit more than a dozen safety suggestions each month. Mr. Grahorn is a machinist.



# Functional Approach Provides Flexibility

(Continued from page 1)

vival in the competitive, highly technical R & D business. Just as we would not trust our family's health to a doctor without formal medical training, our customers now are demanding that we have high levels of formal engineering and science training. As an example of how fast fields may change, a university professor told me recently that today's graduate with a bachelor's degree is better trained than the man who left with his master's degree just five years ago.

Today we deal in engineering fields unknown a decade ago. Policies and procedures have changed. Many changes are self-imposed in an attempt to standardize, streamline and improve our operation.

Engineering techniques are

different today. Analytical methods, involving analog and digital computers, desk calculators and slide rules, are used increasingly. This is not just for fun. If calculations can simulate tests, we are given greater confidence that when we do make a test it will be successful. We now are using systems analysis and better techniques for estimating, scheduling and framing proposals for new business.

## New Facilities

We have eliminated some facilities and added some new ones, including a \$500,000 analog computer which replaces 15-year-old equipment. It is smaller, more efficient, more accurate and reliable.

Finally, we have had a re-direction of effort in the Engineering department, all aimed toward continuing growth in a profitable manner in this Division. We have aligned our organization and individual thinking toward a common set of goals—from research to systems analysis to advanced design—into analytical engineering, the design groups, liaison and test. We are aligned toward conceiving, developing and testing new products which have production follow-on capability. This will enable our Production Operations to have stable, and hopefully increasing, work forces over the years.

## Potential Sought

We are trying to weed out non-profitable operations and to concentrate on those with the greatest potential. We start programs only when we believe the market place is ready. And if the market place vanishes, we stop the program. This may be difficult for some individuals to accept, but it leads to greater stability and future.

Now, where do we go from here?

To Be Continued.

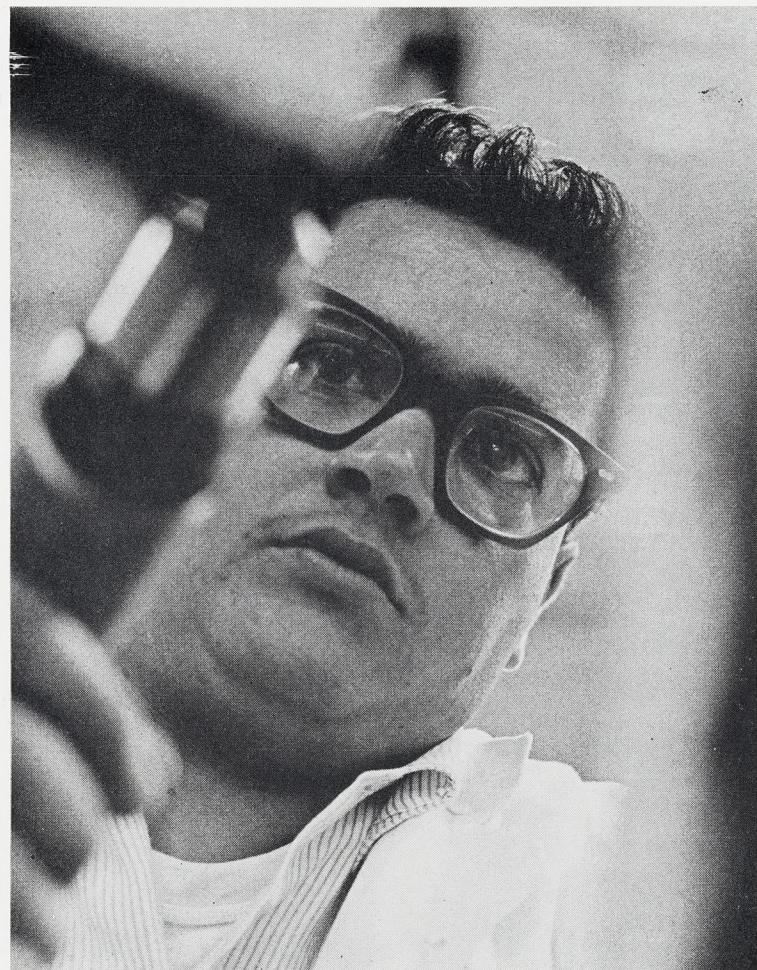
## Sixteen Enrolled In Seminar on Communications

Sixteen Northrop Ventura men are attending a "Motivation Through Communication" seminar, being held weekly.

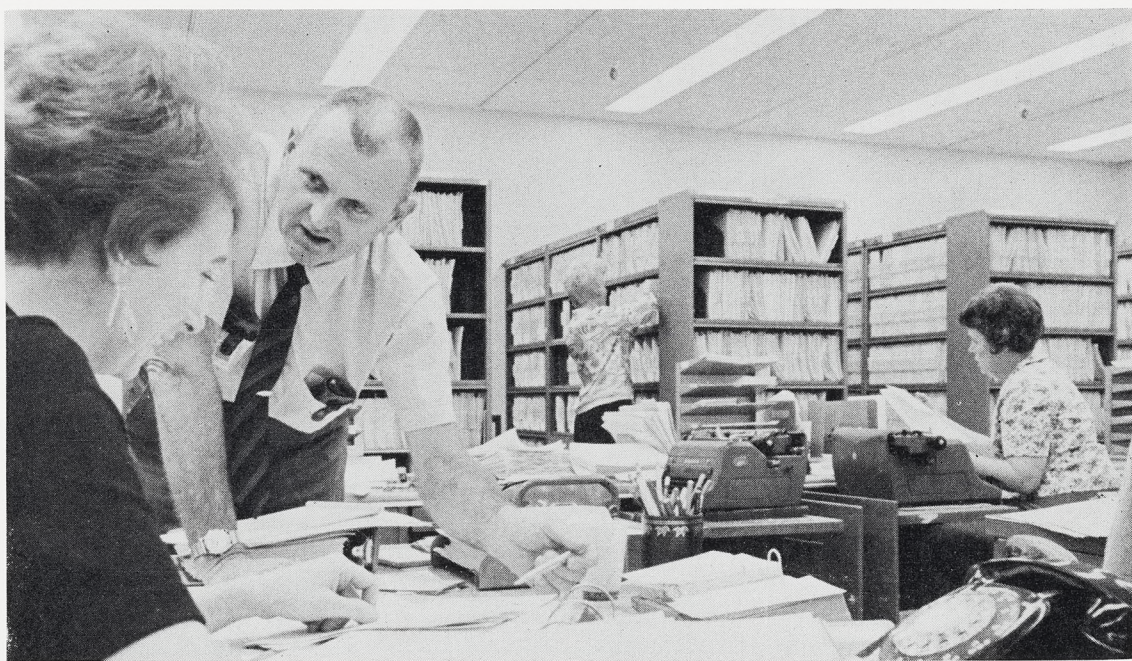
The class meets from 4 to 8 p.m. each Tuesday at DuPar's Restaurant in Thousand Oaks.

The seminar, one official said, "is designed to increase the supervisor's knowledge of practical motivation theory, communication principles and job instruction techniques."

Enrolled in the class are Ed Barker, Bob Hutton, John Hart, John Evans, Ralph Friesen, Les Albright, Bob Pemberton, Rex Fairless, Percy Megginson, Andy Tyszkiewicz, Jewell Plummer, Bernie Swift, Phil Chase, Rollin Lemm, Robert Provart and Darrell Welch.



A NEAR MISS—Ronald Tejada of Northrop Ventura Plastics works with a drill while wearing the safety glasses which may have saved his eyesight recently. Mr. Tejada was wearing them when a sharp piece of metal struck one of the lenses. One witness said the glasses probably saved Mr. Tejada's vision.



A WIDE-ANGLE VIEW of operations in Northrop Ventura's Reproduction and Release branch is provided by Bob Thornton's ultra-

wide-angle lens. In the foreground is Doug Sessions, supervisor of the branch. Reproduction and Release is in charge of all the printing.

## NV's Lee Williams—The Man Behind Conejo Valley Days

Northrop Ventura's Lee Williams doesn't figure to get much sleep between now and mid-June, for two reasons:

First, his wife presented him with a newborn daughter last week, and newborn children have been known to require attention in the middle of the night.



Mr. Williams

Second, Mr. Williams is chairman of both the Grand Marshal Contest and Ticket Sales Committee for this year's observance of Conejo Valley Days to be held in May and June.

## First Runner-up

Last year, he was first runner-up in the marshal's contest, in an attempt to raise funds for bringing recreational facilities to the Conejo Valley.

This year, he decided he could serve the area better by coordinating the contest.

"The Conejo Valley Chamber of Commerce is doing its best to stimulate civic improvement," Mr. Williams said, "by attracting industry and making people aware of the advantages the area has to offer. I believe Conejo Valley Days can be valuable in this regard, and I want to do what I can to make it successful."

## Contest Chairman

As chairman of the marshal's contest, Mr. Williams is responsible for rules governing the competition. For example, the mock tar and feathering of a candidate is acceptable and in keeping with the Wild West theme. On the other hand, no skits or stunts may be held inside any business establishment.

Working with him are members of the Conejo Valley Junior Wom-

en's Club.

As ticket chairman, Mr. Williams has set a price schedule which includes adult tickets for \$4, student tickets for \$3, and rodeo tickets for \$2.50.

## April Preview

Conejo Valley Days will have a sort of preview on April 20, when candidates for grand marshal and junior grand marshal will have a kick-off buffet dinner at DuPar's Restaurant in Thousand Oaks.

The marshal's race will continue throughout May, with the winner determined by the number of tickets sold.

## Beauty Pageant

On May 29, the Miss Conejo Valley Days beauty pageant will take place in the auditorium of California Lutheran College in Thousand Oaks. A dance will be held the following night.

The Conejo Valley Days Jam-boree—including a horse show and a carnival—will be held on June 2, and a two-day rodeo, parade and carnival is scheduled for June 8 and 9.

Mr. Williams, of Materials Engineering, is a member of the Conejo Valley Park District, and a former Thousand Oaks City Council member.

## REPRODUCTION

(Continued from page 1)

ing machine operators, multilith machine operators, senior press operators, lithographic plate makers and engineering status clerks.

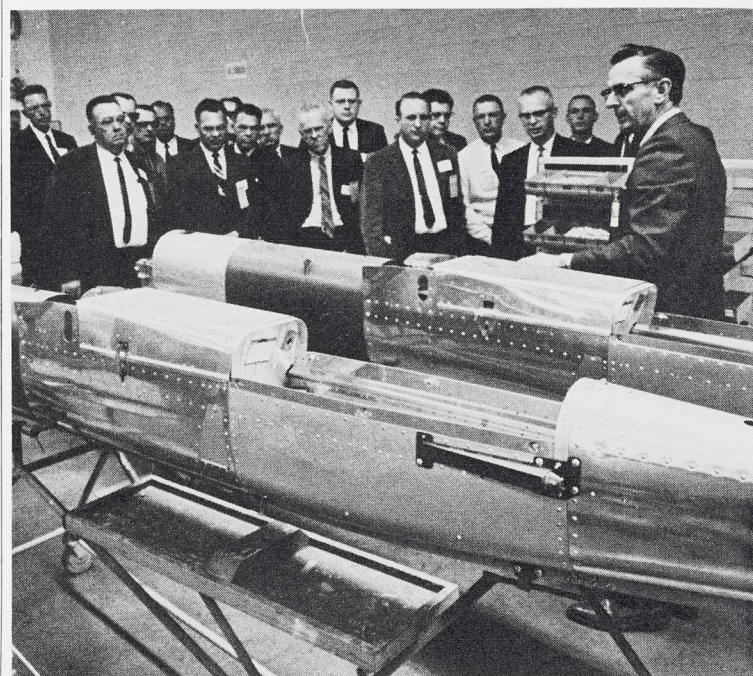
The engineering status clerks are assigned to a vault in which are stored an estimated 12,000 original drawings and blueprints, including every piece of paperwork on every Ventura program.

"Many of those drawings represent hundreds of man-hours," Mr. Sessions said. "Their safety is a major concern. Each is assigned a number in the vault, which is fireproof and has a fire alarm system. We keep the temperature within a degree or so of 75 degrees."

Reproduction and Release works closely with three other branches; Arts and Graphics, headed by Curly Martin, Proposals and Documentation, headed by Hal Kornell, and Technical Information Center, headed by Dave Everett. The four branches are a part of the Publications group, of which Ned Diamant is chief.

"Curly provides us with negatives and original copy," Mr. Sessions said, "and Hal's branch prepares the proposals and reports for us."

Mr. Sessions, who completes 24 years of service to Northrop this month, has been with Ventura for 12 years. Among his assistants are Bill Bryan, Pat LeGrand, Carlo Mortellaro, Duke Powell and Bill Newbury.



INDUSTRIAL TEACHERS—Johnny Via (right) of Northrop Ventura shows a group of industrial education teachers through the Manufacturing Building. The teachers, members of the California Industrial Education Association, were meeting at the Ventura County Fairgrounds in their 39th annual convention.

## SERVICE PINS

(Continued from page 1)

Alex Amaviska, James Bell, Richard Davis, Milton Henderson, Stanley Henjum, Earl Leeds, Billie Linebarrier, Albert Nichols, Louis Ondang, George Reardon and Arthur Smith.





ASTRONAUT RICHARD GORDON, a veteran of space flight in the Gemini Program and a member of flight crews which will man the Apollo spacecraft, meets with Northrop Ventura employees who are producing the Apollo para-

chute landing system. The astronaut visited Northrop Ventura last Thursday. In the photo below, he is seen in a simulated launch during the Gemini Program. Additional photos on page 6.

## Gemini, Apollo Astronaut Visits Ventura Facilities

Astronaut Richard F. Gordon, Jr., veteran of spaceflight in the Gemini program, visited Northrop Ventura last Thursday.

Following morning arrival by helicopter, he met with the team of several hundred people who are producing the parachute earth landing system for the Apollo moon flight spacecraft. Three-man flights in earth orbit, which must precede actual missions to the moon, are scheduled to begin later this year.

Mr. Gordon, who holds the rank of commander in the U.S. Navy, congratulated scores of Northrop Ventura employees who have played a part in development of the Apollo system.

### Care Urged

He urged the greatest care by all individuals in the weeks ahead as the parachute system is subjected to final qualification aerial drop tests at the Defense Department Parachute Facility in El Centro.

Many of the Northrop Ventura people who met and shook hands with Commander Gordon Thursday have been involved in the design, manufacture and test of manned spacecraft landing systems for 10 years. The Northrop Ventura team has produced the landing systems for all Mercury and Gemini spacecraft, as well as the uprated Apollo system now in its final qualification phase.

The original Apollo landing system had been completely qualified in January 1967 shortly before the Cape Kennedy fire which took the lives of three U.S. astronauts. Modifications to the spacecraft, made since that time, increased the vehicle's weight from 11,000 to 13,000 pounds and required uprating of the landing system.

As it now exists, the Apollo landing system consists of two 16.5-foot drogue parachutes which open at 25,000 feet, three 7-foot pilot parachutes which open at about 10,000 feet to draw the three main 83.5-foot parachutes from their containers. As a departure from the original system, the main parachutes now are deployed in two stages of reefing (partially open condition) before full opening for final descent.

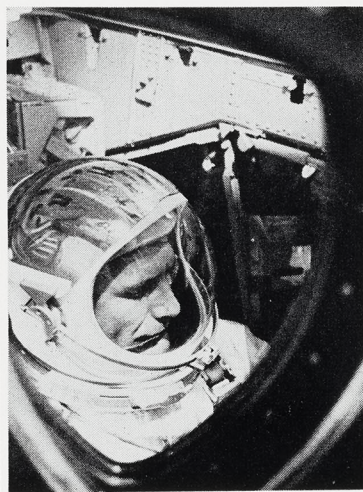
During his visit Thursday, Commander Gordon examined each stage of manufacture of the parachute combination, including the electronic sequencer which commands the various steps in operation of the system. He has been assigned to the backup crew for the second manned Apollo flight.

On September 12, 1966, the astronaut served as pilot for the three-day, 44 revolution Gemini II mission. During the flight, he executed docking maneuvers with another space vehicle which had been previously launched.

### Space Walkers

He also joined the elite group of American "space walkers" by performing two periods of work outside the Gemini spacecraft. This work included attaching a tether to the Agena target vehicle, and retrieval of an experiment package. The Gemini II established an altitude record of 850 miles for manned spacecraft, and the flight ended September 15, 1966.

A native of Seattle, Washington, Commander Gordon received his wings as a Naval aviator in 1953. He has logged 3,100 hours of flying time in jet aircraft and has served as Naval test pilot and training officer.



Astronaut Richard Gordon

## Cost-Cutting Study Nears

A division-wide cost reduction study will be conducted at Northrop Ventura next month, coordinated by H. E. Riggins, Jr., Ventura vice president and assistant to the general manager.

The study, according to Welko E. Gasich, vice president and Ventura general manager, "is aimed at fulfilling the growth and cost improvement objectives outlined by Thomas V. Jones, Northrop's president."

In announcing the study, Mr. Gasich said:

"One of the biggest challenges with which we are faced is the identification and control of cost

problems that tend to accompany rapid increases in business activity. It is to this challenge that we must direct our management attention and resources.

"Accordingly, I have directed that an in-depth review of our operations be initiated beginning the first week in May. I regard this study to be one of the most important analyses conducted by this Division.

"This study involves the participation of not only all division management team members, but all employees as well. Your cooperation and candid view points (See COST STUDY, page 6)

## ASCAC Electronic Vans Completed, Delivered Early

Northrop Ventura has completed—ahead of schedule and below the target cost—two electronic anti-submarine warfare centers for the U.S. Navy.

The mobile centers, housed in 30-foot-long trailers, are designated Anti-Submarine Classification and Analysis Centers (ASCAC), and are designed to provide quick identification of undersea vehicles.

Under terms of the contract, which was issued last April by the Naval Air Development Center, the first van was due to be completed by March 15. It was completed and accepted 10 days earlier, and was delivered to the Moffett Naval Air Station near San Francisco.

The second unit, identical to the first, was scheduled for acceptance by April 15. It was completed on March 24, and will be airlifted to the Norfolk Naval Air Station in Virginia.

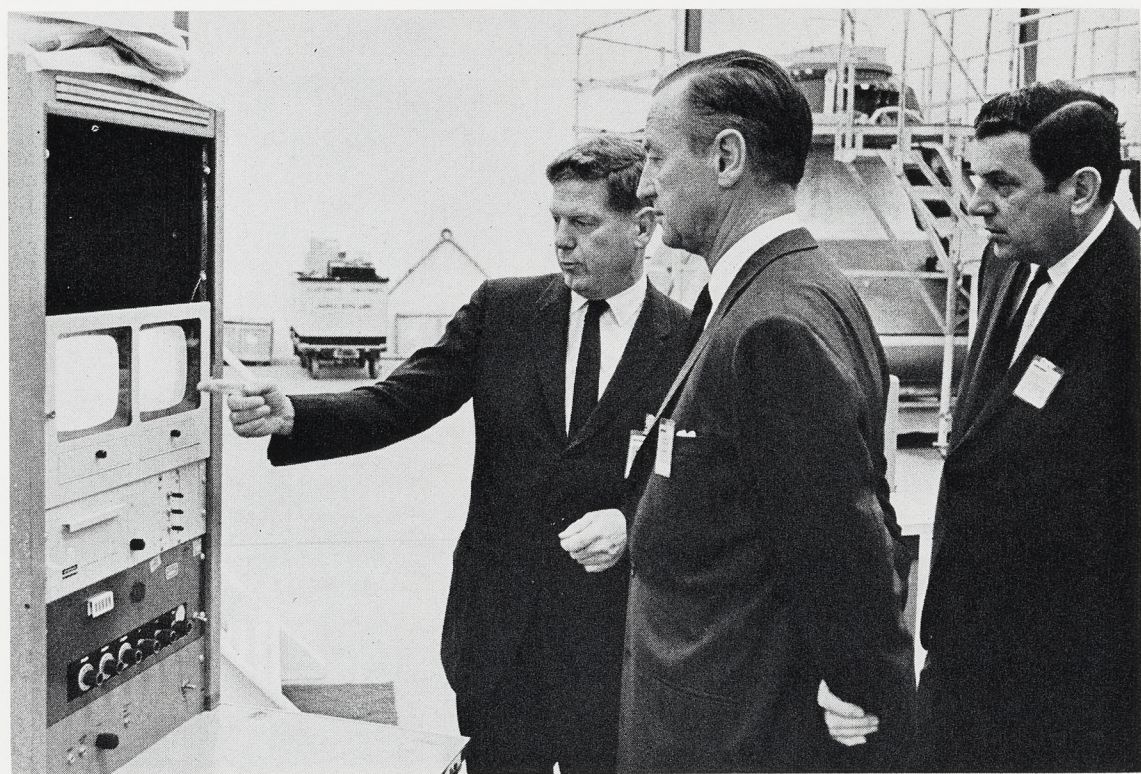
Also under the contract, Nor-

throp Ventura will provide one field engineer at each location, will train the Navy's anti-submarine warfare personnel in the operation of the electronic equipment, and will provide spare parts for the centers.

The vans, 10 feet in width excluding one expandable side, are approximately the size of conventional truck trailers. They are designed to be towed on the highway or airlifted aboard the Navy's C-130. In operation, they may be placed either on shore or aboard a ship.

Three key Naval officials will visit Ventura next Tuesday for a briefing and operational demonstration on the ASCAC electronic center which is destined for Norfolk. Welko E. Gasich, vice president and Ventura general manager, will be their host.

They are Rear Admiral W. C. Abhau, manager of ASW Programs and Systems; Vice Ad- (See ASCAC, page 6)



ASCAC EQUIPMENT—H. A. Haszard (left), Northrop Ventura's ASCAC Program manager, shows Northrop President Thomas V. Jones some of the ASCAC van's electronic equipment. At right is Welko E. Gasich, vice president and

Ventura general manager. Mr. Jones toured Northrop Ventura recently. Two ASCAC vans were delivered ahead of schedule and below the anticipated cost.



## FIRST DROP

## Apollo Landing System Successful

The uprated earth landing system (ELS) for Project Apollo spacecraft was a complete success in its first test with a full scale boilerplate test vehicle on the same day that the first generation ELS was floating to an Atlantic Ocean landing with Apollo 6.

The boilerplate drop test at the Naval Air Facility, El Centro, followed a series of tests since last summer with instrumented test vehicles. Modifications to the Northrop-developed earth landing system were required to handle the increased weight of the Apollo command module.

Meanwhile, Saturn V/Apollo 6 was thundering to a successful unmanned mission. Although an alternate mission was selected because of Saturn V launch vehicle problems, NASA engineers reported that spacecraft accomplishments were impressive.

While evaluation of the third mission of unmanned Apollo spacecraft and Saturn V launch vehicle together will continue for several weeks, indications are that several planned system tests were accomplished. These included the service propulsion system, guidance and navigation system, reaction control system, spacecraft heat protection, fuel cells, and the new unified crew hatch and seals.

And, of course, the Northrop earth landing system unfurled within view of ocean recovery forces. All drogue and pilot parachute mortars and main parachute disconnects were observed, NASA said. The main parachutes were sighted in the water but sank before they could be recovered.

While NASA continues to evaluate the accomplishments of Apollo 6, Northrop Ventura will be continuing qualification tests of the modified ELS at El Centro. Six more boilerplate drops are scheduled.

The first manned orbital flight of Apollo involving the modified ELS is presently scheduled by NASA next fall.

The uprated landing system has been in engineering and testing at Northrop Ventura for less than a year. Principal modifications are an increase in size of drogue



**NASA VISITORS**—Major General Samuel G. Phillips (right), director of the Apollo Program in the Office of Manned Spaceflight, Washington, D.C., is briefed on uprated Apollo earth landing system at Northrop Ventura by John Simpson of Quality Control and Wes Steyer, Northrop Apollo program manager. At General Phillips' right is George M. Hage, deputy director of the Apollo program. Also attending the briefing from NASA was Dr. Robert R. Gilruth, director of NASA's Manned Spaceflight Center, Houston (below, left). Dr. Gilruth is discussing parachute stitching with Northrop Ventura's Robert W. Young, manager of Quality Assurance.

parachutes and the introduction of two-stage reefing of the main parachute to replace the previous one-stage reefing.

Modifications will allow the command module to touch down at the same speed although it will weigh about 2,000 pounds more than the spacecraft which was tested April 4.

Northrop Ventura, supplier to the prime contractor on the earth landing system, also designed and built the parachute systems for Apollo's predecessors — the Mercury and Gemini Programs. W. A. Steyer is Apollo manager.

In a related field, Northrop Ventura is designing and testing parawings — steerable unmanned parachute-like vehicles, under contract to the National Aeronautics and Space Administration.

IT'S A FACT  
AT NORTHROP

The sun never sets on Northrop people and products.

Northrop F-5's are creasing the skies from Iran to Taiwan and Vietnam. SR-71 reconnaissance aircraft—the world's fastest operational airplanes—flash through the skies over the United States, guided by a Northrop guidance and navigation system.

From the Mediterranean to the Caribbean, from the Arctic to the South Pacific, from Asia to the United States and Europe, Northrop Page Communications installations flash voice and telegraphic messages, many of them in high speed secret, military code.

## Northrop and Polaris

Prowling the seas of the world are Polaris submarines equipped with Northrop DATICO check-out equipment, and Northrop-built target drones are used in many Free World countries to sharpen the aim of gunners and missiles.

Dedicated amateur shortwave radio enthusiasts around the world look to Northrop's Chicago subsidiary, The Hallicrafters Company, for the finest of receivers. Village chiefs in remote spots of the world communicate with their neighbors with Hallicrafters short-wave equipment.

## Guidance Systems

Thousands of gyroscopes built by Northrop in Massachusetts are used in guidance systems on submarines, surface ships, aircraft, missiles and even on spacecraft now in orbit.

Architectural products produced by Northrop Architectural Systems are installed in modern office buildings throughout the Free World.

Flares manufactured by Northrop Carolina make the night safer for U. S. and allied servicemen in South Vietnam.

And in numerous locations around the world trained Northrop field service experts are on hand to service and maintain Northrop-built products.



**AVAILABLE** — The Northrop Coin Club's 20-year commemorative medal, struck in bronze, is still available at \$2 each to Northrop employees at the Hawthorne complex Personnel Activities office.

Disneyland Night  
Tickets Available

Tickets are ready for pickup at Personnel Activities outlets throughout Northrop Corporation.

They sell for \$3.75 each.

They are good for all facilities at Disneyland from 8 p.m. to 1 a.m. May 25. That's Northrop Night at Disneyland when everything is reserved exclusively for Northrop families.

Discounts Still Good  
For Ice Show Seats

Final call for discount tickets for the 5 p.m. May 5 performance of Ice Capades at the Los Angeles Sports Arena was issued this week by NRC.

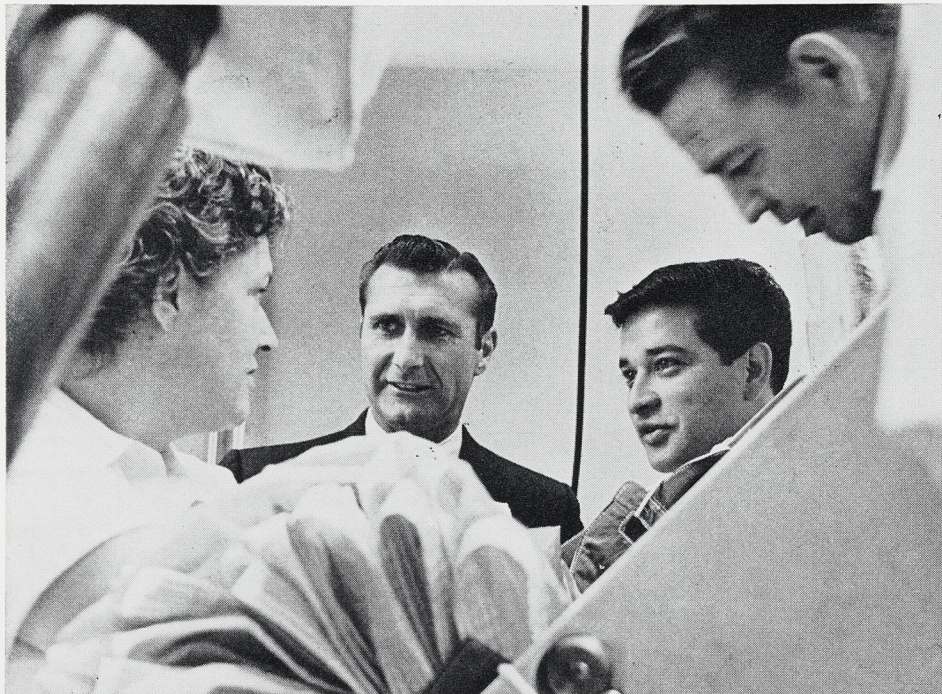
Regular \$5 tickets are available at \$3.50 each at Personnel Activities outlets.

DAYLIGHT SAVING  
TIME NEARS

Over the coming weekend, California, and a majority of the nation, makes the spring change from Standard to Daylight Saving Time. Clocks must be set ahead one hour.

All Northrop Corporation facilities will observe this change, and work shifts on and after April 28 will begin on Daylight Saving Time.

## ASTRONAUT WOWS APOLLO PARACHUTE MAKERS



**ASTRONAUT RICHARD F. GORDON**, who visited Northrop Ventura last week, chats with parachute riggers Norma Jean Cretal, Jim Colunga and Buzz Correy in the Paradyamics Laboratory at the Division's Newbury Park headquarters. Following a morning arrival by helicopter, Navy Commander Gordon toured manufacturing, engineering and administration facilities, shaking hands by the hundreds and lunched with members of the Apollo team. In photo at right, he compli-



ments Bobbie Taylor, a senior sewing machine operator in the Paralab. A veteran of the Gemini II mission, Astronaut Gordon has been assigned to the backup crew of the second manned Apollo flight. In chatting with Northrop employees, he urged the greatest care by all individuals in the weeks ahead prior to the first manned flight.





ENGINEERING DEPARTMENT, 28 YEARS AGO—This photograph, made on July 1, 1940, was the first ever taken of the Northrop Engineering department. It was taken near what is now the Plant Two parking lot. Eighteen of the employees shown are still with Northrop, 28 years later. They are H. R. Peterson,

Connie Harley, Pop Jones, Ralph Allen, Gale York, Ray Reimer, Hal Page, Don Axt, Tom Greiner, Ray Gardner, Will Fraker, Harry Parker, Bill Appleton, Gene Brown, Roy Wolford, Rusty Bell, Jack Glenn and Glen Landis.

## McDaniel Elected To Northrop Directorship

T. M. McDaniel, jr., president of the Southern California Edison Company, has been elected a member of the board of directors of Northrop Corporation, Thomas V. Jones, Northrop president, announced last week.

Mr. McDaniel, who joined Southern California Edison in 1956 as an executive assistant, was executive vice president of the utility company before being elected president.

Mr. McDaniel is a native of Richmond, California, and is a graduate of Stanford University and the Stanford Graduate School of Business.

He is an advisory director of the Bank of America and a director of the Automobile Club of Southern California.

## Thomas V. Jones Chosen 'Businessman of Year'

Thomas V. Jones, Northrop president, was this month named Outstanding Businessman of the Year in Southern California by the Los Angeles Chapter of the National Association of Accountants.

Mr. Jones was praised for his "dynamic leadership that led Northrop Corporation to become one of the most successful and highly regarded diversified aerospace firms in the nation."

## COMMENTARY

# Who Benefits From Savings Bonds?

The United States dollar, as the world's strongest currency and the bulwark of the Free World economy, benefits from the sale of United States Savings Bonds at this critical time for defense of the dollar.

This is the reason that every Secretary of the Treasury since the inception of Savings Bonds, and the nation's vast banking system which sells them as issuing agents, favors their sale to more and more Americans. Savings Bonds resist inflation and contribute to efficient management of the public debt.

In addition, of course, the individual buyer benefits, as does his family, through improved financial health and a savings program for emergencies, education, vacations, retirement, home buy-

A. M. "Tony" Guerreiro, Manufacturing Research and Development supervisor at Northrop Norair, has been named Man of the Year by the Western Section, Plastics for Tooling Division of the Society of the Plastics Industry.

The honors were presented recently at San Diego State College, San Diego.

Mr. Guerreiro helped organize the Western Section, Plastics for Tooling, 10 years ago, and is a former national vice chairman for the Tooling Division.

Mr. Guerreiro has worked in the plastics industry for 30 years.

He joined Northrop in 1951 and has played a leading role in the use of plastics in aerospace fabrication.

\* \* \*

Five Northrop Norair men were key participants in an AIAA Symposium on Low Speed Flight Technology held last week in the International Hotel, Los Angeles.

David M. Badger was chairman of the symposium committee, while Darrel L. Hirsch served as a committee member.

J. R. Stevens presented a paper on "Low Speed Wing Design—Program Development and

ing and purchase of important comforts of life.

Income taxes on the Savings Bonds interest can be postponed until lower earning years by postponing cashing them in—or by trading for H Bonds.

The United States Treasury seeks total sales of \$5½ billion dollars in Savings Bonds during 1968. It also seeks 10½ million individual payroll savers to help to achieve this critically needed objective.

Every community and every important civic and service group, industrial leader, every professional and public service group is urged to join the effort.

It begins here, with us. That is how in 26 years Americans decided to buy more than \$150



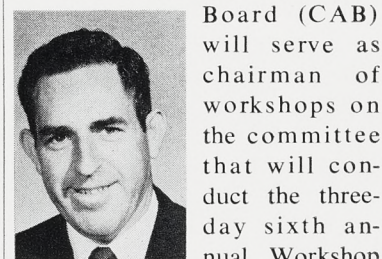
PLASTIC INDUSTRY honors as Man of the Year were bestowed last month on Norair's Tony Guerreiro. Mr. Guerreiro is shown with hydroform press-made parts fabricated with various types of pad material. At the top of the group is a part made with a polyurethane pad he helped develop which greatly reduces the need for hand finishing.

Experimental Verification" at the session on Aerodynamics.

J. B. Sinacori and J. T. Gallagher co-authored a paper on "Low Speed Ground Based Simulation Techniques" (from V/STOL study) at the session on Flight Control.

A Nortronics supervisor will head a Northrop delegation of five to a data exchange conference next week in Los Angeles.

David Kessler, Interagency Data Exchange Program (IDEP) representative for Northrop Corporation, and an elected member of the Contractors Advisory



Mr. Kessler

Board (CAB) will serve as chairman of workshops on the committee that will conduct the three-day sixth annual Workshop Conference May 1, at the Ambassador Hotel in Los Angeles. Co-sponsoring with the CAB will be the Army, Navy, Air Force and NASA.

Mr. Kessler, supervisor of Reliability Engineering at Anaheim, will be accompanied by Seth Lewis, supervisor of Reliability Engineering at Northrop Ventura; Brian Agnew, Reliability engineer at Norair; Conway Fuhrman, Standards engineer at Nortronics Hawthorne; and Tom

Thompson, jr., a senior Reliability engineer at Anaheim.

Mr. Kessler, as workshop chairman, will establish, staff and coordinate the seven workshops, and report to the conference body on the workshop results. He will also outline CAB plans toward accomplishing workshop recommendations.

Achievement awards will be presented to the IDEP participants in recognition of outstanding support through voluntary and timely exchange of test, reliability and other technical data, effective use of interagency data and active participation in IDEP functions.

General chairman of the conference is Walter W. Westman, of the Sandia Corporation in Albuquerque, New Mexico.

\* \* \*

Two Nortronics engineering specialists will deliver technical papers concerning Navigation department developments to the National Aerospace Electronics Conference in Dayton, Ohio on May 7.

Richard Berg will speak on the "C-5 Navigation Computing System," from a paper which he co-authored with another Nortronics engineer, John Sekiguchi, of the Advanced Computer Design group. The Berg-Sekiguchi paper will describe how the two digital computers are used in the C-5 to provide back-up computational capability in the aircraft's Inertial-Doppler Navigation Equipment.

John Lukesh will deliver his talk on "Simulation of the Nortronics Kalman Filter Augmented C-5 Inertial-Doppler Navigator." The session in which Mr. Lukesh will speak will highlight the benefits of the Kalman filter as opposed to its design problems, technical approaches and resulting equipment characteristics.



Mr. Berg



Mr. Lukesh



# NRC Shop Basketball Champions Crowned

Photos by Ike Murata



## Two Playoffs Mark Finale Of Busy Year

One of the most action-packed shop basketball seasons ever staged by NRC in the Hawthorne area concluded last week.

Winners in each of three major leagues will be honored soon by NRC.

Representing the four-team "C" league will be the Imposters, a team comprised of Nortronics Hawthorne personnel. The Imposters posted an 8-1 win-loss record for the year, just one notch above the Researchers with a 7-2 record.

The 6-team "A" league ended its season late last week. The Regals, winners of the second round of play, dropped the Falcons, first round winners, by a score of 60-49. Bill Merkovski of the Falcons, led the scoring parade with 24 points. The Regals were managed by Dan McCarthy; the Falcons by Dolphe McConnell.

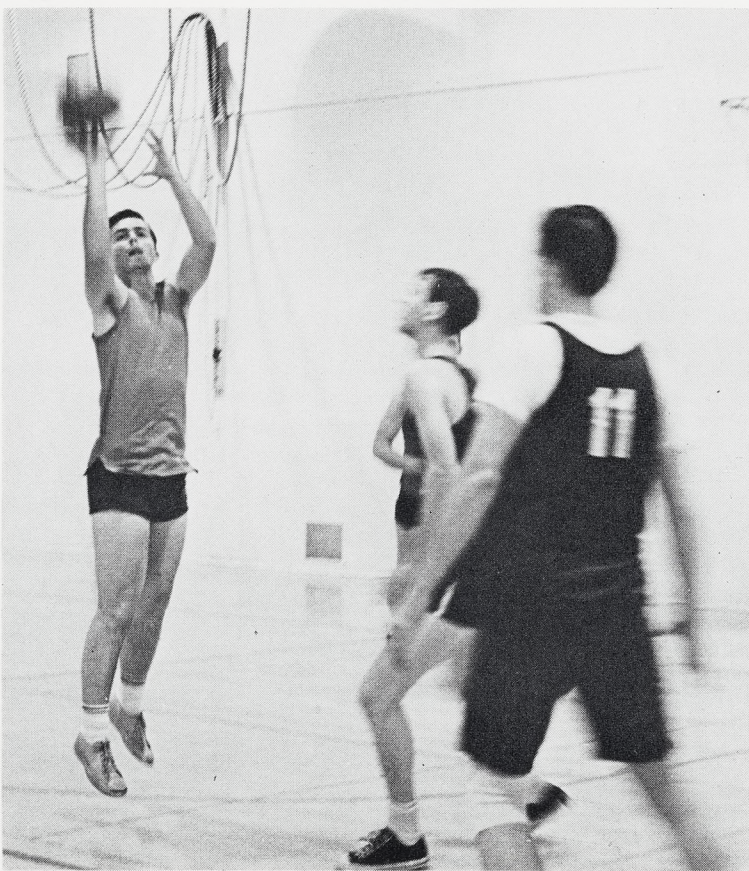
The larger "B" league had four teams taking part in each of two divisions. The Buggs of Norair won the Western Division title, while the Cardiacs of Nortronics Hawthorne took honors in the Century Division.

In a best two-of-three playoff series the Cardiacs moved ahead with a 43-37 victory, only to have the Buggs come back to win a 34-28 second game. In the deciding game, the Cardiacs won a close 44-41 contest.

Joel Fleiss and Carl Avazian scored 21 and 11 points, respectively, for the Cardiacs, while Tom Wedel sank 18 for the Buggs.

Mr. Fleiss emerged as the top scorer of the season with an average of 22.3 points per game. Gary Peterchick of the F-Troop team was second with an average of 18.4 points.

Vic Huang was manager of the winning Cardiacs. Rick Bradley was a playing manager for the Buggs.





Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale	
Ford, 1958, r/h, \$175. 835-6492.	A
Pickup Truck, 1951, 6-cyl., 3-spd., \$200. 644-3429.	A
Chevrolet, 1955 Impala Super Sport, a/c, p/b, p/s, 327 eng., \$1,850. 329-4837.	A
Chevrolet, 1955, 2-dr., auto., \$300. 378-5924.	A
Chevrolet, 1960, 6-cyl., auto. trans., \$60. 671-1660.	A
Ford, 1963 Country sedan, eng. just o/hauled, factory air, near new tires, \$750. 377-8655.	A
Pontiac, 1964 Grand Prix, p/s, p/b, AM-FM, wire whls., Craig stereo, \$1,400. 371-5261.	A
Pontiac, 1963 Tempest coupe, \$500. 835-2184.	A
Station Wagon, 1960 Vauxhall, rebilt. eng., good brakes & tires, \$325. 714-535-8232.	A
Buick, 1966 Special, convt., V-8, auto. trans., r/h, \$1,595. 674-0960.	A
Corvette, 1967, 327 cu. in., 350 h.p., p/s, 4-spd. close ratio, AM-FM radio, air cond., roadster model w/removable top, \$4,000. 320-0206.	A
English Ford, 1963 Anglia, \$400. 377-4489.	A
Mustang, 1966, air cond., w/w tires, V-8, auto., \$2,150. 805-762-6711.	A
Chevrolet, 1963 Impala, 2-dr. h/top, V-8, p/s, radio, \$1,200. 534-2638.	A
Shelby, 1967 GT 500, p/s, p/b, auto., 428 cu. in. Le Mans eng., 10,000 miles, \$3,900. 675-1365.	A
Cutlass, 1966 sport coupe, fact. air, p/s, p/b, auto. trans., console, under 25,000 miles, \$2,300. 644-4094.	A
Chevrolet, 1965 Impala Super Sport, r/h, p/s, b/seats, new tires, 283 eng., \$1,700. 834-8672.	A
Buick, 1962 Special convt., \$695. 372-1643.	A
Station Wagon, 1959 Rambler, new tires, \$150. 371-2381.	A
Chevrolet, 1963, auto. trans., 283 cu. in. eng., \$1,000. 678-7449.	A
Station Wagon, 1962 Chevrolet Nova, 6-cyl., auto., r/h, p/s, \$550. 371-9595.	A
Corvair Monza, 1961, auto. trans., \$250. 534-2419.	A
Mustang, 1965 h/top, 6-cyl., 3-spd. stick shift, 30,000 miles, \$1,350. 456-2690.	A
Triumph, 1959 custom, 650 cc, Harmon & Collins cams, 1 3/16 carbs., all rebilt., \$1,000. 379-7407.	A
Chevrolet, 1963 Biscayne, 6-cyl., stick shift, \$425. 864-0614.	A
Oldsmobile, 1963 F-85, 4 new Double Eagle tires, 64,000 miles, \$1,100. 343-7880.	A
Buick, 1963 Skylark, auto., p/s, r/h, V-8, \$1,150. 830-6163.	A
Chevrolet, Impala, 4-dr. sedan, r/h, air cond., p/s, 25,000 miles, \$1,650. 805-498-4776.	A
Buick, 1964 Special, 4-dr., 55,000 miles, new tires, 6-cyl., \$1,295. 363-2027.	A
Karmann Ghia, 1961 convt., new top, r/h, convt. boot, \$975. 325-7351.	A
Station Wagon, 1959 Ford, 6-cyl. auto. trans., r/h, \$175. 377-7241.	A
Chevrolet, 1960 2-dr. h/top, r/h, new trans., 348 eng., \$400. 679-7840.	A
Station Wagon, 1960 Ford, stick shift, \$325. 325-7605.	A
Camaro, 1967 SS 350, 4-spd., posit., mag. wheel covers, \$2,250. 714-897-6059.	A
Dodge wagon, wench & o/sized tires, \$1,000. 675-6186.	A
Pickup Truck, 1963 Chev. 1/2-ton, cab-hi-camper shell, many extras, \$1,095. 324-1593.	A
Cadillac, 1963 sedan, De Ville, fully equiped, new tires, \$1,895. 805-947-4782.	A
Pickup Truck, Chevrolet, 1956, \$650. 675-8891.	A
Karmann Ghia, 1959 convt., 1964 VW eng., r/h, \$350. 294-0541.	A
Chevrolet, 1959 Impala, 2-dr. h/top, auto., \$250. 327-2447.	A
Camper-Bus, Volkswagen Delux, inc. water tank, ice box, extras, \$1,940. 714-962-1805.	A
Ford, 1965 convt., 17,000 miles, new tires & paint, p/b, p/w, air cond., \$1,850. 391-8072.	A
Volkswagen, 1968, radio, 4-spd., less than 5,000 miles, take over \$64.56 mo. pymt., \$1,700 bal. 692-8373.	A
Camper-Van, 1966 Ford, auto., ice box, stove, sink, water tank, awning w/sides, sleeps 2, \$2,100. 375-3257.	A
Corvair, 1963, 4-dr. sedan, r/h, auto. trans., \$425. 541-1226.	A
Truck, 1962 Chev. 1/2-ton, storage boxes on sides, Stahl Service body, major tuneup & tires, \$825. 564-2263.	A
Dodge, 1963 Polara, 2-dr. h/top, p/s, p/b, r/h, \$800. Box 801.	A
Mercedes Benz, 190 SL, \$995. 373-1395.	A

Automobiles For Sale	
MG TC, 1948, right hand drive, 19" whls., needs paint, \$1,095. 805-944-2678.	A
Chevrolet, 1967 Nomad, p/s, p/b, flr. shift, tach, chrome whls., new brakes & clutch, \$645. 325-8478.	A
Ford, 1966 Galaxy, 2-dr., power, air, console, \$1,875. 349-4772.	A
Mustang, 1965, 6-cyl., air cond., p/s, auto. trans., new paint, \$1,750. 545-4964.	A
Chevrolet, 1964 Super Sport convt., air cond., p/s, p/windows, 4-spd., 327 eng., \$1,350. 373-3669.	A
Chevrolet, 1967 Impala, p/s, p/b, within warranty, \$2,650. 714-638-2025.	A
Lincoln, Continental, 1964, \$1,895; Pontiac 1964 Bonneville, 2-dr. h/top, \$1,150; Chevrolet, 1964 Impala S.S. Cpe., \$800, repossession, Norair Credit Union, ext. 1117.	A
Household Items For Sale	
Bar, walnut finish w/black matching stools, 5 mos. old, \$95. 805-495-0772.	B
Trundle Bed, lower part, maple head & foot board, mattress, \$25. 393-2373.	B
Dining Room Set, mahogany, seats 6, 4 chairs, \$35. 754-3037.	B
Crib, Babyline, matching chest, ant. white & gold, dble. drop sides, colonial style, canopy top, \$50. 714-637-6151.	B
Range, O'Keefe & Merritt Contempo, single oven, lower storage center, rotisserie, \$200. 754-9889.	B
Refrigerator, Philco, \$20. 374-5133.	B
Table, Duncan Phyfe, dropleaf extension, 4 chairs, \$30, many other items. 757-7824.	B
Crib, walnut, \$30. 835-3869.	B
Crib, mattress, natural wood, \$10. 376-8014.	B
Crib, mattress, \$15. 325-8175.	B
China Cabinet, walnut, Danish modern, top sliding glass doors, \$50. 532-4368.	B
Bunk Beds, metal, wood trim, w/ladder & mattresses, \$25. 376-4831.	B
Mangle, Ironite, \$100. 832-1895; 321-2611.	B
Counter Top, cultured marble, 18"x49", beige, never used, \$25. 326-5979.	B
Chairs, 2 Danish walnut w/brown cushions & painting, modern 3-pt. dimensional, walnut frame, city scene, \$40. 326-0340.	B
China, 91 pcs., service for 12, \$45. 674-6076.	B
Door, 2-pc. Dutch w/hardware, 32" wide, \$40. 293-5993.	B
China, Wentworth, silver wheat pattern, service for 8, inc. snack set, extra cups, never used, \$80. 676-6303.	B
Miscellaneous For Sale	
Bicycle, boy's 20", w/training whls., new tire, \$15. 714-673-0244.	C
Home, 2-bdrm., new roofing, paint in & out, h/wood floors, 15 mins. from Northrop, \$19,950. 754-3554.	C
Pups, Alaskan Malamute, AKC reg., male & female, \$50 up. 714-635-5304.	C
Carrier, for trailer-motorcycle, set-up for 2 bikes, 15" wheels, new lights, \$125. 867-1476.	C
Surfboard, \$25. 532-7095.	C
Horse, 1/2 quarter, 1/2 Arab gelding, 8 yrs. old, \$500. 644-2717.	C
Mini-Bike, 8 h.p., lights, horn, dual tanks, racing seat, \$158.50. 393-5649.	C
Pups, min. dachshund, AKC, 6 wks. old, dk. red, \$75 to \$100. 582-1079.	C
Supercharger, for 1962-1966 Volkswagen, Judson model, complete kit incl. installation instructions, \$100. 379-4807.	C
Scuba Tank & harness, \$25. 328-3306.	C
Boat, 10', fiberglass covered wood, newly painted inside, \$50. 327-4585.	C
Awning for 8x12 trailer w/hardware, used very little, \$45. 714-526-2071.	C
House, 4-bdrm., 1 1/2 bath, used brick fireplace, knotty pine paneling, cpts., dps., bltins, block wall fence, dble. att. gar., assume 5 1/4% FHA loan, \$22,500. 714-897-9075.	C
Surfboard, Jacobs, 9', \$40. 633-4477.	C
Wedding Rings, cost \$350, \$200. 376-6182.	C
Movie Camera, Argus Super 8, 4 to 1 manual zoom lens, elec. & fully auto., case, \$75. 645-6211.	C
Home, Tustin area, 3-bdrm., 2 1/2 baths, living rm., family rm., lge. lot, \$26,950. 865-3108.	C
House, 3-bdrm., 1 3/4 bath, h/wood floors, cpts., dps., bltins, landscaped, near schools, \$27,250. 675-0928.	C
Shopsmith, many attachments, \$225. 677-6675.	C
Air Conditioner, RCA Whirlpool, window mounting equipment inc., 8,700 B.T.U., \$60. 757-1948.	C
Press, letterpress, 10x15 C&P open hand, \$175. 752-2717.	C
House, completely furn., 5 rooms, enc. patio, landscaped, in Joshua Tree, \$14,500. 376-4787.	C
Hair Dryer, professional type, Helene Curtis, w/chair, temp. settings, pink, \$60. 671-6577.	C
Acreage, 5 acres, near Lake Los Angeles, low dn., low monthly pymts., liberal terms, \$5,980. 877-2219.	C
House, 4-bdrm., 1 3/4 bath, dps., cpts., bltin stove, oven & d/washer, newly painted, 5 mins. from Northrop Hawthorne, \$31,500. 324-8464.	C
Tools, assorted hand & electric, \$15-\$20. 675-2510.	C
Honda, 1966 Scrambler, 175 cc, custom paint, \$350. 677-8276.	C

Miscellaneous For Sale	
Camper, Hi-Way Cruiser, shell type, insulated & paneled, 1963 model, bunks & storage cabinets, fits any 8' Fleetside pickup bed, \$250. 370-8869.	C
Camper, 1963, teardrop, 8 1/2' overhead w/jacks, \$800. 676-1710.	C
Yamaha, 1964, 125 cc, w/helmet, \$145. Box 802.	C
Motorcycle, 250 cc Matchless, \$300. 672-4450.	C
Walkie Talkie, Sony, leather cases & batteries, \$45. 677-3920.	C
Playpen, Cosco deluxe, used 1 year, \$15. 323-6745.	C
Motorcycle, 1964 Harley Davidson XLCH, custom paint, recently o/hauled, \$995. 370-2214.	C
Stereo System, Harman Kardon, 50 W amp., Dynaco FM3 tuner, KLH 17 speakers, \$275. 756-0704.	C
Organ, Hammond, model A100 w/Hammond PR 40 speaker system, full size w/percussion, reverb & Mays bass, 1 yr. old, organ \$1,700; speaker \$400. 830-1442.	C
Travel Trailer, 19 1/2', 1966 Terry, tandem axle, dual brakes, elec. & hydraulic, \$2,000. 430-4622.	C
Sailboat, 18', Bermudian, new dacron sails, needs paint, \$500. 831-5507.	C
House, 3-bdrm., 2 baths, lge. lot, commercial zone, in Anaheim, \$25,000. 928-2257.	C
House, in Garden Grove, 4-bdrm., 2 full baths, 2-car gar., disposal, lge. fenced-in yard, low down, \$21,000. 581-5208.	C
Poodles, miniature toy, 2 mos. old, papers, \$60. 375-5885.	C
Rifle, Remington Model 700 BDL 7 mm Rem. mag., fired only 20 rounds, Redfield 3X-9X scope mounted, inc. ammo., \$240. 596-0521.	C
Boat, 14' runabout w/trailer, 30 h.p. Mercury motor, \$320. 671-8672.	C
Trumpet, \$35. 323-8797.	C
Air Conditioner, Mark IV, for auto, \$100. 776-1928.	C
Shocks, set for 1966, '67 or '68 Ford, \$15. 671-6692.	C
Encyclopedias, 1952 Funk & Wagnalls, 36 vols., \$25. 675-7316.	C
Surfboard, Rick, 9' 4", \$40. 325-5875.	C
Motorcycle, 1966 BSA, 650, 2,000 miles, \$850. 324-2942.	C
Camera, Miranda D f1.5, case, \$125. 377-4230.	C
TV, 17" table model, \$20. 714-523-0995.	C
TV, rock maple, color, 23" in lge. cabinet, \$275. 644-4529.	C
Piano, upright, \$175. 675-3541.	C
Tape Recorder, Concord 320, dual power, portable, \$50. 805-498-3549.	C
House, 3-bdrm., 2 baths, bltins, cpts., dps., f/a heat, fireplace, b/wall fence, dble. det. gar., landscaped w/patio, 12 mins. to Norair, \$26,500. 835-5377.	C
House, 3-bdrm., 2 baths, dps., fenced yard, dble. gar., near ocean in Huntington Bch., \$18,900. 714-847-6166.	C
Camera, Minolta SRT-101, single lens reflex, behind-the-lens meter, interchangeable f/1.7 lens, case, \$165. 376-4473.	C
Stole, natural mink, from Dicker & Dicker, never worn, \$350. 545-4268.	C
Boat, 40' Matthews T.S., elec. refrig., s/s radio-telephone, rdf, many extras, sleeps 7, \$13,000. 379-3313.	C
Pistol, Colt .45 auto., model 1911A1, \$85. 379-3487.	C
French Poodle, AKC reg., teddy bear marked, 8 wks. old, \$75. 754-3665.	C
House, 4-bdrm., near Del Amo Shopping Center, family rm. w/bltin TV & bar, bltin refrig., lge. corner lot, block fence, 10% or more down, \$36,900. 370-6601.	C

Miscellaneous For Sale	
Bathinette, \$7. 328-5840.	C
Carburetors, 1 3/4" SU & manifold for MGA & MGB, \$50. 324-1984.	C
House, in Oceanside, 2-bdrm., lge. enc. patio, fenced back yard w/fruit trees, \$16,000. 328-9028.	C
Drums, St. George, Ludwig cymbals & Speed King pedals, \$175. 714-830-2835.	C
Poodles, mini-toy, AKC reg., shots, silver, \$75 ea. 714-847-8263.	C
Home, 3-bdrm., 2 baths, near Gardena High School, all bltins, d/washer, landscaped w/sprinkler sys., \$32,500. 323-3793.	C
Sailboat, 13 1/2' glass sloop, alum. mast & boom, dacron main, jib & spinnaker, extras, \$495. 375-7265.	C
Honda, 1963, 50cc, recently o/hauled, \$100. 671-6592.	C
Encyclopedia, World Book, 1954, stand, \$25. 755-8018.	C
Volkswagen Camper, 1963 unit, built in, \$1,000. 375-9811.	C
Acreage, 5 acres in Antelope Valley near Willow Springs, on good road, \$35 dn, \$35 mo., inc. 6% interest, \$3,500. 378-1026.	C
Mini-Bike, 6.4 h.p., \$100. 831-4586.	C
Motorcycle, Yamaha, 305cc, 1967 model, less than 2,400 miles, \$550. 714-539-9339.	C
Camera, Leica, 50mm, 90mm & 135mm lens, \$99. 379-4075.	C
Poodle, black female, 7 mos. old, has shots & license, \$12. 541-1423.	C
House, 3-bdrm., 7 mins. from Northrop, G.I. or FHA, \$21,950. 757-2510.	C
Ski Boat, 14' Catamaran, glass covered, plywood hull, 75 A. Meic. eng., 15' wheel-trailer, \$750. 322-5434.	C
Home, 3-bdrm., in Lawndale, extra bldg. in rear, fenced yard, 10 mins. from Norair, \$19,950. 370-7742.	C
Encyclopedia, complete set, 26 books, Universal Standard, \$20. 674-1847.	C
Organ, antique, 10 stops, pump style, \$225. 714-525-9633.	C
Lot, new boat slip, Bass Lake, on quiet, secluded cove, lge., fairly level, across national forest, \$750 dn., \$50 mo., \$3,500. Box 803.	C
Surfboard, 9'4" Jacobs 67 Launce Carson, \$100. 375-0813.	C
Home, 2,200 sq. ft. in Pacific Palisades, 3-bdrm., living rm., lge. family rm., all elec. kitchen, 2 patios, less than 8 yrs. old, \$57,000. 392-2592.	C
Apt, 6 units, 5 mins. from Northrop, enc. gars., lge. lot, low down, assume low interest loan, \$54,000. 679-7963.	C
Trailer, 1965 24' Airstream, self-contained, custom interior, \$4,999. 676-4865.	C
Wanted to Buy	
Motorcycle, or parts, any American-made, manufactured prior to 1920. 370-6400.	D
Dryer, gas, in good condition. 370-7749.	D
MG or Triumph convt., 1955-1958. 423-1363.	D
Boat, 16' fiberglass, V hull, equipped with at least a 65 h.p. motor. 805-942-6216.	D
Table, dropleaf w/extra leaves. 324-0134.	D
Tires, 2 5:20x14 in good usable condition for Fiat. Box 804.	D
Auto Rack for surfboard. Box 805.	D
Free (To Be Given Away)	
Kittens, part Siamese, ready for good home about May 1. 676-2803.	F
Kittens, 7. 714-528-3758.	F
Rentals Offered	
House, 4-bdrm., 2 baths, 2-story, in Santa Ana Canyon-Anaheim area, cpts., bltin stove, d/washer, disposal, refrig., 1 yr. lease w/option to buy, avail. June 15, \$225 mo. 714-637-6634.	G

Rides and Riders	
Rides Wanted	
7 a.m. — 3:42 p.m.	
Long Beach Blvd. & Del Amo, Long Beach. Jean Wigley, Norair ext. 2605, 423-1711.	
Prairie or Crenshaw Blvd. & 171st, Torrance. Accept ride at Yukon & 171st Sts. David R. Miller, Norair ext. 2004, 309-9303.	
7:30 a.m. — 4:15 p.m.	
Del Amo Blvd. & 190th, West of Hawthorne Blvd., Torrance. Desire ride one way from Mariposa Facility or both ways if convenient, Jo Anne Witherspoon, Mariposa ext. 4071, 542-3267.	
Hawthorne Blvd. & 104th, Inglewood. Irene McCarthy, Norair ext. 1581, 672-7506.	
8 a.m. — 4:45 p.m.	
Lynwood Area off El Segundo Blvd. near Long Beach Blvd., Lynwood. Sheila Ondrasek, Norair ext. 2001, 537-3098.	
Rentals Offered	
Vacation Cabins, Idyllwild, 1 & 2 bdrms., fireplace, stream, patios, \$20-\$35 w/ends; \$45-\$75 wk. 754-5288.	G
Cabin, Green Valley, \$25 w/end; \$45 wk. 324-0649.	G
House, 2-bdrm., unfurn., near Northrop, fireplace, lge. yard, \$125 mo. 676-6014.	G
Cabin, Lake Arrowhead, modern, 200 ft. from lake, \$100 wk. 375-2255.	G
Apts, 1 & 2-bdrm., furn. or unfurn., completely refurbished, cpts, bltins, dps., pool, carport, adults, 15 mins. from Nortronics, \$95 & up. 714-522-1237.	G
Cabin, Lake Arrowhead, close to lake & village, fireplace, patio, \$60 wk. 761-9645.	G
Duplex, 2-bdrm., cpts., dps., storage, bltins, pullman bath, gar., near Torrance & Crenshaw, \$130 mo. 714-826-6744.	G
Vacation Cabins, Lake Gregory & Crestline, sleep 6, make reservations for June through Sept., \$25 w/ends; \$60 wk. 391-2040.	G
House, 3-bdrm., 1 1/2 baths, bltins, fireplace, gar., in Manhattan Bch., \$235 mo. 372-7994.	G
Cabin, Green Valley Lake, \$35 w/end; \$55 wk. 320-2002.	G
Apt, 2-bdrm., unfurn., carport, laundry rm., 20 mins. from Northrop, 1 child OK, \$100. 537-3098.	G
House, 3-bdrm., unfurn., in Thousand Oaks, \$160 mo. 372-1259.	G
Home, 3-bdrm., 2 1/2 baths, avail. May 1, walking distance to Del Amo Shopping Center, \$175. 373-2469.	G
Cottage, Ocean Bch., San Diego, make reservations now, \$65 wk. 714-826-2007.	G
Rentals Wanted	
Truck, w/small camper for 3 weeks, no rough roads, no children. 674-6466.	H
Child Care	
Child Care offered, hr., day or wk., all ages, my home. 644-3817.	I
Babysitter, mature, wanted for 4 small girls. 374-5133.	I
Child Care offered, days, 6 blocks from Norair, yard, hot lunches. 422-2018.	I
Child Care offered, 1 or 2 children, 1 to 5 years, in my home, days, fenced yard, lunches. 675-2683.	I
Found	
Watch, Timex. 676-1018.	K
Personals	
Day Shift employees coming to work witnessing auto accident about Jan. 9 involving a blue Buick & a white auto turning left from El Segundo Blvd. on to Prairie Ave., call 644-2163.	



AT THE FLIGHT SIMULATOR — Nancy Peschke, a sophomore at El Camino College, talks with Norair's J. B. Sinacori, during a tour of flight simulator facilities. Miss Peschke, a

sociology major, was preparing a report on visual and auditory perception, as they relate to flight simulators, for a class in psychology.





**MEETING WITH MANAGEMENT**—During his visit to Northrop Ventura last week, Astronaut Richard Gordon met with management officials. Talking over coffee here are (from left) John Flores, deputy manager of Engineering and chief engineer; H. E. Riggins, vice president and assistant general manager; Robert Young, manager of Quality Assurance; Astronaut Gordon; Thomas Flannigan, Marketing vice president; and W. E. Gasich, vice president and general manager.



**AN AUTOGRAPH** is signed for Clara Manring of the Northrop Ventura Parolab by Astronaut Richard Gordon. During his tour of Ventura last week, the Navy commander talked with employees who have designed and built parachutes for the Mercury, Gemini and Apollo programs.



**SPACE WALKING TOOLS**—In this photograph from the National Aeronautics and Space Administration, Astronaut Richard Gordon wears the flight suit he wore on his walk in space during the Gemini II mission. The camera is a 70-millimeter wide-angle unit.



**A GIFT TO EDUCATION**—For the third consecutive year, Northrop Ventura has contributed to the support of California Lutheran College in Thousand Oaks. Here, CLC President Raymond M. Olson (left), receives the gift from George C. Grogan, Ventura vice president and manager of Engineering.

## ASCAC

(Continued from page 1)

miral H. G. Bowen, ASW commander-Pacific; and Vice Admiral T. F. Caldwell, director of ASW Programs and Naval Operations.

Following acceptance of the vans, the office of the Defense Contract Administration Service (DCAS) sent Ventura officials a message, congratulating the Division for its performance on the program.

Mr. Gasich, in relaying the message to ASCAC program personnel, said, in part:

"As you know, the Navy and DCAS both were extremely pleased by our delivery of the two vans ahead of schedule and under the programmed cost.

"Beyond the fact of satisfying the immediate needs of a specific customer—which is our primary task—I should like you to be aware of the importance of your contribution to the Division. Exceptional performance on ASCAC, as with any other program, puts us in an excellent position for more extensive business in the future. In addition to that, you have set an example for other programs in the Division by proving that severe problems of cost and schedule can be overcome through imaginative work.

"I thank you for your part in this."

Heading the ASCAC effort was H. A. Hazard, project manager. Joining him in the project office were C. E. Martin, deputy project manager, and R. D. Sorenson, staff technical assistant.

Other key ASCAC personnel included R. A. Baltz, Quality Control; A. D. McNeir, Contract Administration; H. Clausen, Electronics Analytical Design; C. B. Stallsmith, Technical Documentation; D. Severs, Experimental Manufacturing; R. E. Tracy, Engineering Test; and F. J. Wyndhoff, technical staff for Electronics Analytical Design.

## COST STUDY

(Continued from page 1)

through the questionnaires and interviews which will take place during the study will be necessary toward achieving our desired goals."

Ward Dennis, Northrop's vice president of Forward Planning, and Michael Creamer of the Corporate staff will be Co-chairmen.

## Development of Individual Called Key To Success

(Editor's Note: Following is the third, and last, in a series of articles dealing with change in the Engineering department at Northrop Ventura.)

By George C. Grogan  
Vice President  
Engineering

No change, in fact nothing at all, can be accomplished without the work and cooperation of competent people.

Although we measure departmental output by various statistical, seemingly cold and impersonal methods, we are fully aware that the creative individual mind used in concert with others is the ultimate measure of our success or failure.

That is why one of the greatest changes now transpiring in the Engineering department is a series of programs aimed at helping the individual develop himself for larger duties and greater management responsibilities.

We have injected formal management training courses into our program, including sessions at UCLA and USC, special program management courses conducted in-house, and longer training programs at MIT and Stanford University. Hopefully, these will bring the latest management techniques and approaches into our department.

Now, let us consider what we, as individuals, can do to help the department and the division, and in so doing, help ourselves.

First, we should strive to increase our own skills.

We should take full advantage of Northrop's educational refund plan.

We should take maximum advantage of the excellent educational opportunities available in Southern California.

We should join and attend meetings of the many professional societies.

We should—above all—read constantly, read library material, magazines and textbooks to keep abreast of the state-of-the-art and potential advancements to which we may make contributions.

Stated another way, we must come back to the fundamentals of science and engineering. We should always challenge the

"we've always done it that way" temptation. Just because something worked two decades ago, five years ago, or even this year, doesn't mean it's the best method today or tomorrow.

We do not want to re-invent the wheel. We do not want to become unnecessarily sophisticated and complex. But also we do not think of spruce or aluminum as the only materials for flying machines.

At the risk of sounding pedantic I should like to re-emphasize some of the most elemental things that can go far toward accomplishing the unusually difficult tasks which face us now and in the future.

We should strive always to turn out the very best work we can. Eliminate the small mistakes by double checking, because it is often the small mistakes that catch up with us, compounding and parlaying themselves into big mistakes.

We must work diligently toward meeting schedules, budgets and achieving excellence in all our products.

Above all, communicate with each other by the written and spoken word.

It may be trite to say that our basic errors can almost always be traced back to our failure to communicate with each other—but it's true.

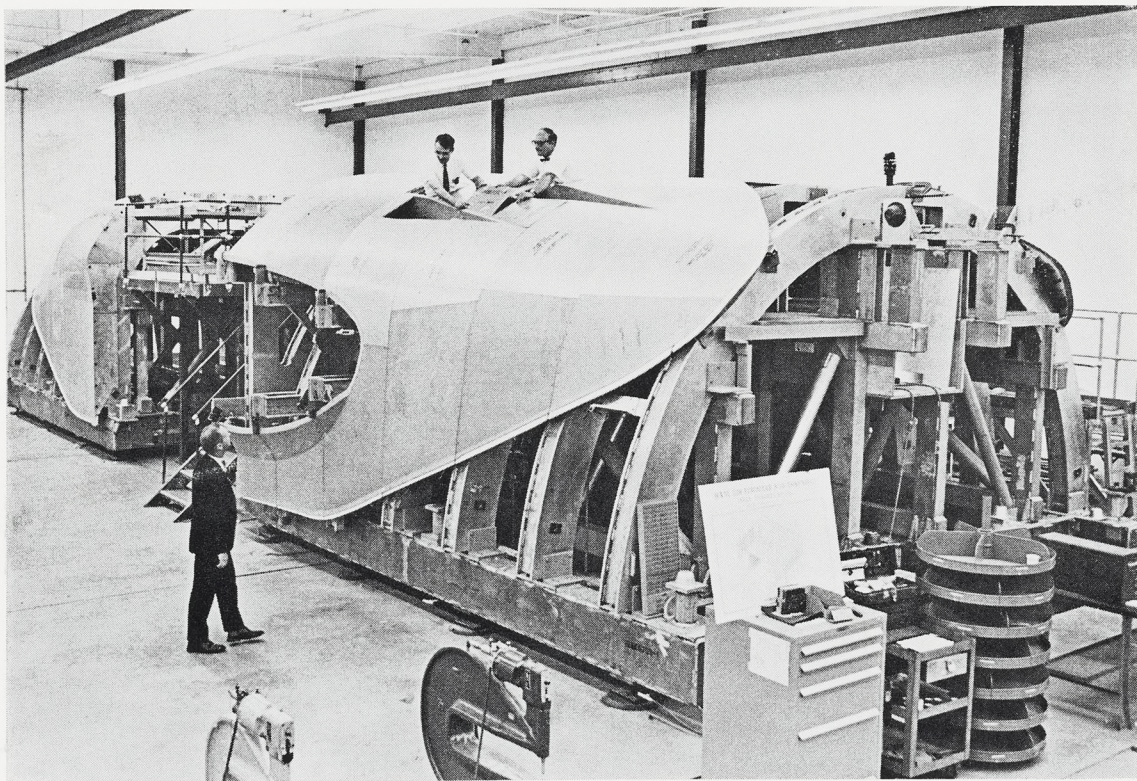
It is especially true if you realize that all of science and engineering is the process of transferring an idea from someone's mind into a sketch, or drawing, or piece of hardware.

If the idea is not communicated to someone else—no matter what the idea may be—it has accomplished nothing.

So change will continue in the Engineering department to maintain pace with the almost revolutionary change about us, change in economics, the peace and war situation of our nation, change in military and space budgets, change in technology.

We have a very simple choice. We must change with—or ahead of—the world, or suffer the greatest change of all, that of being dropped from the mainstream of our profession.





**FIRST SET**—Technicians install the final panels on the first set of Boeing 747 wing fairings completed and shipped by Northrop Ventura. The plastic sections are fitted to a large test

fixture, which simulates the bottom fuselage and wing root section of the giant airliner. They are then dismantled and shipped to Everett, Washington.

## Second, Third Tests On Apollo Successful

The second and third in a series of seven Apollo boilerplate tests have been conducted in the past two weeks at El Centro. All three tests have been successful.

The second test, on April 24, was made with a full-scale, full-weight boilerplate test vehicle. The test simulated a normal entry with apex cover jettison and augmentation, one drogue parachute, and three main parachutes.

The test vehicle was dropped from the C-133A launch aircraft at 32,000 feet. The programmer parachute disconnected, and the apex cover was jettisoned at the same time that the apex cover parachute mortar was fired. The apex cover parachute augments the cover to prevent it from in-

terfering with drogue deployment or recontact with the test vehicle.

The third test in the series was conducted last Wednesday. This test, designated as 85-2, was to verify the performance of the Apollo parachute system during a simulated off-the-pad abort condition.

Two drogue and three main parachutes were utilized, along with the full-size boilerplate test vehicle and a forward heat shield cover.

Program officials are scheduling one test per week.

Northrop Ventura is providing parachute systems for the Apollo Program, as it did for all Mercury and Gemini missions.

## Bartz Receives 25-Year Pin At Ventura

Alvin F. Bartz, who will celebrate his 25th anniversary of working with Northrop tomorrow, is one of 12 Northrop Ventura employees to earn service pins this month.



Mr. Bartz

Mr. Bartz, a foreman in the Sheet Metal unit, joined the company on May 9, 1943.

Three men became eligible for 20-year pins. Robert Legg, a technical

supervisor in the El Paso Flight Operations office, joined the company on May 24, 1948. Orville Reed, a technical supervisor in the El Centro Test office, joined the firm in May 1948, as did John Green, a precision lead sheet metal mechanic in Subassembly.

Recipients of 15-year pins this month were Douglas Henwood and John Wells. Six employees received five-year pins. They are Lena Conti, Linda Hawk, Peggy Jones, Mort Maurer, Arthur Miller and Bonnie Olson.

## NV Employee Elected To Head Secretarial Group

Mrs. Tammy Tracy, secretary to B. F. Collins, program manager - Aeronautical Systems, has been elected president of Thousand Oaks' Los Robles Chapter, The National Secretaries Association for the 1968-69 term.

Elected to the office of second vice president and program chairman was Mrs. Jeannine Childers, secretary to A. O. Quenon, chief project engineer, Aeronautical Systems.

## First Wing Fairings Completed, Delivered

The first set of wing fairings for the Boeing 747 jetliner has been sent to The Boeing Company by Northrop Ventura.

The fiberglass fairings and related parts were trucked from Newbury Park to Oxnard, and were shipped on flatcars from there to Everett, Washington, where Boeing is building the 490-passenger jet airliner.

"We've been sending what we call 'loose parts' since the start of the year," Product Chief Wayne Beeman said, "but this shipment was the first complete set of major items."

### Major Items

Each set includes a total of 648 parts, Mr. Beeman said, of which about 200 are classified as major items.

The fairing for each airplane measures approximately 24 by 80 feet. Each set of fairings is manufactured in 106 plastic honeycomb sandwich panels, and then fitted together to form the total structure.

The panels are being assembled at Ventura in what the company calls a "fitted parts" situation. After assembly, they are disassembled, placed into special reusable packing crates, and loaded onto their trucks.

### Careful Packaging

The crates are an interesting part of the program. They consist of a structural steel frame, solid wood top, bottom and end panels, and canvas sides, similar in concept to the currently popular "soft side" luggage.

Coordinating the shipping of wing fairings from Ventura to Boeing is Joe Pulver, supervisor of Traffic.

"Each complete set of 747 fairings would fill three 40-foot vans, plus part of a fourth," Mr. Pulver said. The vans are 40 feet

long, more than 8 feet 6 inches high, and 8 feet wide.

Mr. Beeman explained that the first shipments contained the structural parts and fairings for Section 42, the area immediately in front of the wing; the parts and fairings above the wing on Section 44; and for the area both above and below the wing on Section 46.

For the remainder of 1968, Northrop Ventura will supply one complete set of 747 parts to Boeing each month. In January of next year, the number will double. And in February and March of 1969, three complete sets are scheduled to be sent.

### Deliveries Increase

With delivery demands increasing gradually, Ventura will be supplying a peak amount of eight and one-half sets of fairings per month by January 1971.

The 747, scheduled for first airline deliveries in 1969, will be the world's largest commercial jet airplane. Its wingspan is 195 feet, length 231 feet, and the vertical tail section towers five stories (63 feet) above the ground. A cargo version of the plane will carry 100 tons of freight.

Formation of a typical panel for the wing fairing begins with a molten aluminum spray applied to the surface of the basic mold. This aluminum film later becomes an integral part of the plastic structure.

After the aluminum spray, layers of fiberglass cloth are put in place, and a layer of nylon honeycomb is added. Finally, inner layers of fiberglass complete the sandwich.

The entire assembly is then vacuum-sealed in a nylon bag and is moved into an autoclave oven. There it is cured at 280 degrees temperature for four and one-half hours.

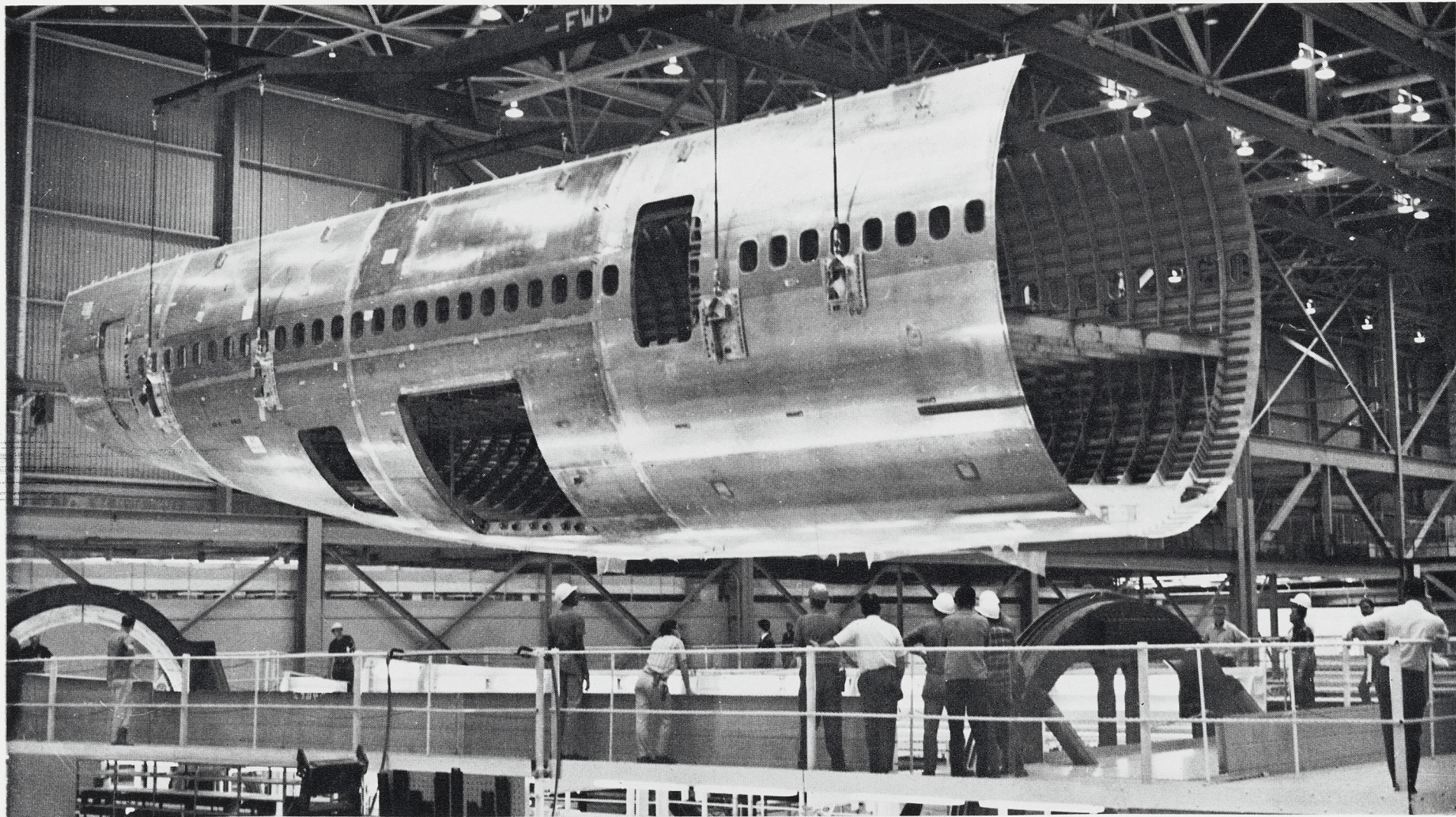


**SECRETARIES' WEEK**—Jeannine Childers (left) and Tammy Tracy display lilies given to them by a local florist, in observance of Secretaries' Week. Mrs. Tracy is president of the Los Robles Chapter of the National Secretaries Association. Mrs. Childers is second vice president and program chairman.

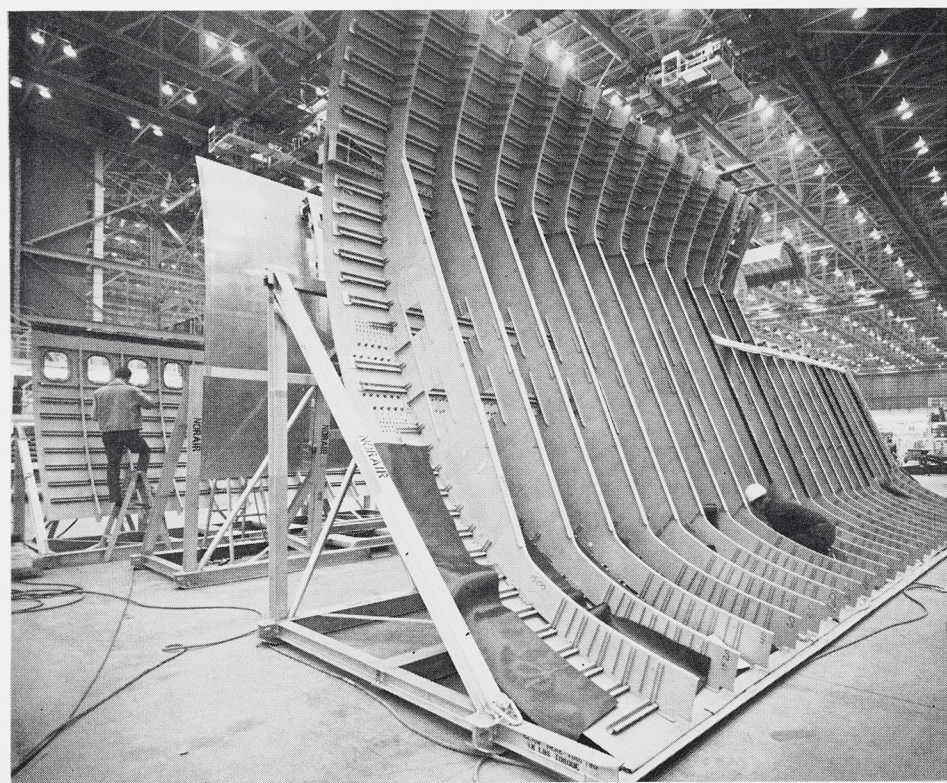


**DOLLAR DONORS** — Northrop Ventura's Dollar Donors, an in-plant charity organization, give \$350 to the American Cancer Society. Making the presentation were Chuck Taylor (right) and Johnnie Via (second from right), treasurer and president of the Dollar Donors. Receiving the check were Robert D. Bell (left), Conejo Valley general chairman, and Cyrus Johnson, Conejo Crusade chairman.

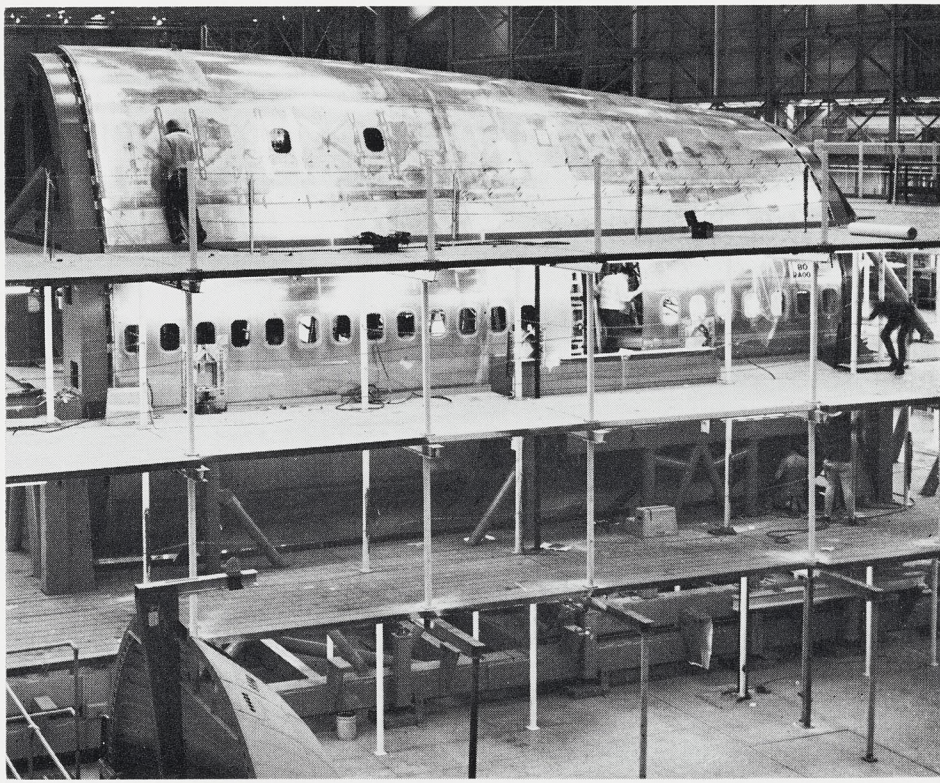




## The Giant 747 Jetliner Takes Shape at Boeing



**IT'S UPSIDE DOWN**—This 73-foot rear fuselage lower section (top photo) is assembled upside down, then rotated 180 degrees and loaded back into the jig for installation of upper bonnet assemblies. In the lower photo at left, Section 46 is being sent to Boeing in shipping fixtures such as this. When assembled, the



aft fuselage section contains the aft cargo areas and passenger doors. In the photo at right, workmen add the finishing touches to the three-story high Section 42, which comprises the upper deck compartment, forward end of the passenger cabin and forward cargo area. Northrop is building a 153-foot fuselage section.

### Retirement Club Schedules Reunion, Disneyland Visit

The Northrop Retirement Club has two big events on tap during May.

May 15 will find retirees from all divisions gathering at the Alondra Club, Lawndale, for annual reunion festivities.

And on May 25, retired employees and their spouses will join Northrop's annual Night at Disneyland via chartered bus. Buses to Disneyland will depart the parking lot at Crenshaw Boulevard and 120th Street at 6:30 p.m.

The Alondra Club will be open at 3 p.m. May 15 for registration and games. A buffet dinner will be served at 6. Guest speaker is William Larrabee, re-

tired Northrop vice president-Industrial Relations.

Reservations for both events are being accepted by Club officers. Retirees who are not active participants in Club activities may contact Personnel Activities at Norair, ext. 2486, for further information.

#### Caribbean Meeting Set

The final organizational meeting for Northrop employees and family members interested in a Northrop Travel Club tour to the Caribbean will be held at 8 p.m. May 17 in Room 4, Hawthorne Airport Building.

The cost is \$666 per person. Brochures are available through Personnel Activities outlets.

### Former Employees Sought by Company

Seven former Northrop employees are due for a pleasant surprise—if someone knows how to reach them.

Personnel in Northrop's Retirement Administration are trying to contact the former employees to inform them of their vested retirement rights and amounts in the Retirement Plan.

The "missing" former employees are D. J. Burtch, D. W. Callard, G. W. Christensen, V. E. Cull, C. A. Ferguson, R. B. Hughes and J. A. Lyles.

Persons who may know how to contact any of those seven have been asked to call the Retirement Administration on extension 302 in the Century City office.

### THREE OUTINGS

## Mountaineers To Be Busy

Trips into the High Sierras, the Redwood National Parks and the Angeles Crest Forest have been scheduled for this month by the Northrop Mountaineers Club.

Ken Ferrell, club commissioner, said all three trips are open to Northrop employees, whether or not they are members of the group. Additional information may be obtained by contacting him on Norair ext. 2001.

The Mountaineers will climb Olancha Peak in the High Sierras on May 18 and 19. They'll backpack from the Jordan Pack Station on Saturday, then climb to the 12,135-foot peak on Sunday. Lugged sole boots will be required. Information may be

obtained from Glenn Lougee on 805-944-1752 or Dave Hodgson on 291-1255.

The group will hold a beginners' climb on May 25, climbing to the peak of 9,400-foot Mt. Baden-Powell in the Angeles Crest Forest. Coordinators are Ben and Miriam Romero, at 249-1564.

The club will take part in a five-day trip to Northern California from May 29 through June 2, camping for two nights at Patrick's Point State Park and one night at Richardson Grove. Bus reservations are \$33 for the round trip. Reservations must be made by May 20.

The leader is Ed Ostrenga, on 878-3320.



## John Movius Selected for Sloan Study

John D. Movius, a regional director in Northrop's Washington office, has been selected as a Stanford Sloan fellow for the 1968-69 program.



Mr. Movius

Mr. Movius was nominated by Northrop President Thomas V. Jones as the company's candidate for this nine-month intensive study program, which is intended to provide new knowledge in business and assist in the development of advanced management skills and techniques.

Mr. Movius will be enrolled at Stanford in September.

Each year the Stanford University Graduate School of Business selects approximately 30 fellows from industry and government to attend the Sloan program.

The Stanford Sloan program is one of several used by Northrop Corporation as a part of its program for Management Development.

Mr. Movius joined Northrop in September 1963, and has been assigned to the Washington office since that time.

## NRC Clubs Schedule June 'Fiesta' Dance

Northrop Recreation Clubs serving Hawthorne complex personnel have booked the Mayflower Ballroom, Inglewood, for a June 15 "Fiesta" dance.

This first NRC dance of the year will feature Jimmy Talbert and his orchestra. A social hour will begin at 8:30 p.m. Dancing will follow from 9:30 p.m. to 1:30 a.m.

Tickets, at \$1.50 per person, are available through Personnel Activities outlets.



'THE HEAD SAM' is a term applied to Dan Gravlin by the 13 other members of the Palos Verdes Maintenance and Construction department which he supervises. Mr. Gravlin, a Northrop employee for 18 years, was presented a trophy by the other "Sams" in the office on his 65th birthday last month. No one knows why, but for the past five years, everyone in the department has called his fellow employee "Sam"—including the secretary, Bella Nix, the only lady in the office.



**SHATTERED GLASSES**—Richard Fisher, a jig builder at Northrop Norair, shows fellow employees the safety glasses he was wearing during a recent mishap. Mr. Fisher was operating a drill when a bit broke, and the broken piece of metal struck Mr. Fisher's glasses. He was not injured. With him are Troy Click

(left), safety committeeman, and Supervisor H. L. Tennyson. The incident qualified Mr. Fisher for membership in the "Wise Owl" Club, an honorary group comprised of workers who have prevented eye injury by wearing safety glasses on the job.



**HIGH-ALTITUDE ENTERTAINMENT**—A proposed passenger entertainment system designed for the Boeing 747 jetliner is shown here in an interior mockup of the 625-mile-an-hour

jet. The picture shows a wide-screen presentation in the first class section. Northrop is building a 153-foot fuselage section, wing fairings, stringers and other parts for the jetliner.

## Elmer Noonan To Address AMA Meet

Nortronics' director of Industrial Relations will be featured as a discussion leader at an American Management Association meeting in Los Angeles next week.

Elmer Noonan will lead the workshop seminar dealing with "Wage and Salary Administration for Sound Company Operations."

The three-day discussion meetings will examine the basic elements of a modern wage/salary program, with emphasis on establishing measurable objectives. In addition to exchanges of ideas in virtually every wage/salary category, special attention will be given to the specific compensation needs of various employee groups.

Along with this special attention area, Mr. Noonan will guide the seminar discussions in other distinct directions: (1) assurance that wage and salary administration programs are up-to-date; (2) surveys and pricing jobs; and (3) day-to-day administration.



Mr. Noonan

## '2001' Tickets on Sale

Discount tickets for the 5 p.m. June 15 showing of the Cinerama film "2001: A Space Odyssey" at the Warner Hollywood Theatre, Hollywood, are available at Northrop Personnel Activities outlets.

Regular \$3 loge and orchestra seats are available for \$2.40 each for this Northrop theatre party.

## 'Desert Classic' Planned

The Norair Golf Association's annual Desert Classic is set for June 1 and 2 at Palm Desert. Play will be over the Indian Wells and Bermuda Dunes courses. The cost for a golfer and non-playing guest is \$46.96; for a single golfer, \$34.48.

## Fast-Growing Palm Labeled 'Voodoo Plant'

Speculation has ended. Jane McAleney's secret is known. That "what's-it" is really a voodoo plant.

Mrs. McAleney has enjoyed the suspense.

For seven years (she is an 11-year Northrop veteran) she has relished working as a Norair Research Laboratories assistant. She finds her friends there friendly and outgoing, curious by nature, methodical by profession, capable of rising quickly to the challenge of the unknown.

As an orchid-growing hobbyist, she appreciated their attention to a group project, a potted avocado seed that sprouted luxurious foliage.

Mrs. McAleney shared their concern when it died and disliked the now-vacant planter. She planted radish seeds in it. Nothing happened.

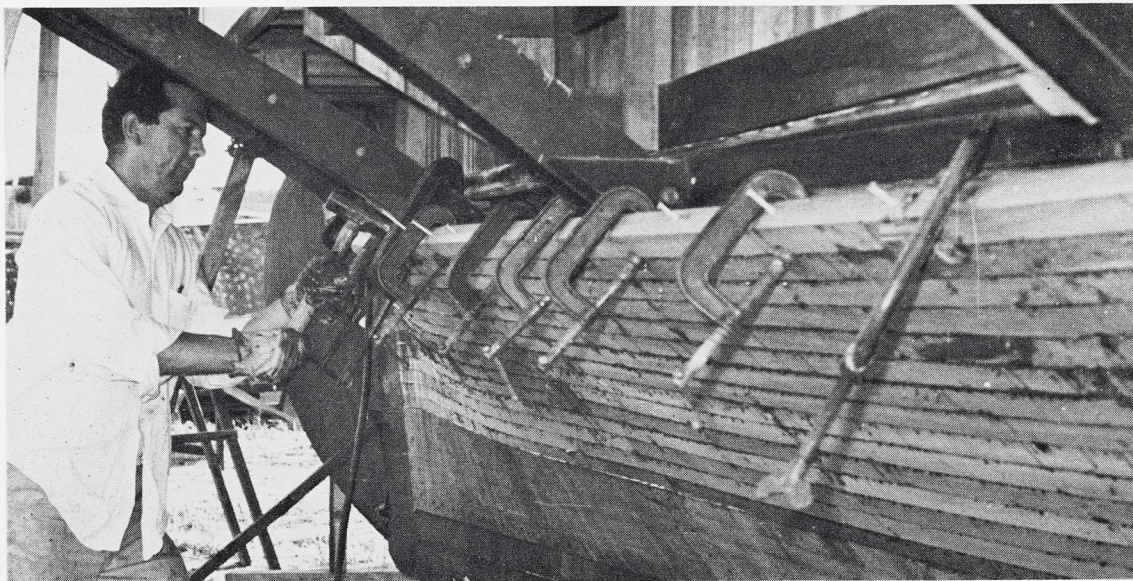
She brought from home a small bulb, secretly planted it, watered it, and went her way. Things happened fast. In two days it grew two inches. In 14 days it climbed upward more than 36 inches and sprouted leaves. Speculation increased each day.

Some called the palm-like plant an iris. Others said it was a leopard plant, because of the stalk colors. One wag dubbed it an "Ultra Gigantus Weedorus Gloris."

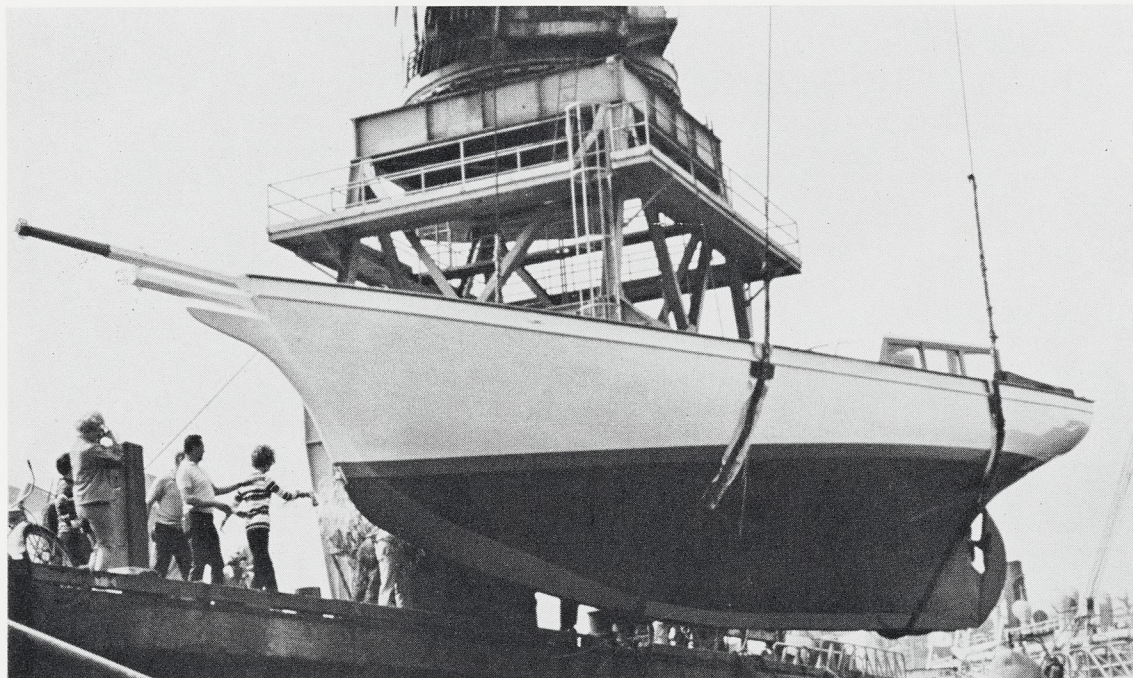


**VOODOO PLANT?** Right, or at least that's what Jane McAleney chooses to call the fast-growing plant which she "installed" recently in a planter in the Norair Research Laboratories. It climbed upward more than 36 inches in the first two weeks after it was planted. The plant caused much speculation among fellow employees as it grew at such a fast rate.





The captain of the schooner planking his hull.



Elizabeth I, 120 pounds, christens Elizabeth II, 23 tons.



"It floats!," cries the first mate from the bow.

#### NORTRONICS' BOB CLAY

### A 52-Foot Ultimate Do-It-Yourself Project

If there were one project to which you would devote your every free moment, what would it be? And, would doing this one thing to the exclusion of all else be worthy of the sacrifice?

These are questions that Bob Clay, supervisor of Business Systems Development at Nortronics Hawthorne, had to answer back in 1963. It was then that he made the decision to dedicate himself to the building of a boat; a job that he figured "would take me about three years."

Now, Bob and his wife Liz, also a Nortronics employee, look at the 52-foot staysail schooner Elizabeth II, with its 14½-foot

beam, and agree the long labor of love was worth the price.

"In fact," Bob says, just out of earshot of Liz. "I'd love to build another . . . but not soon."

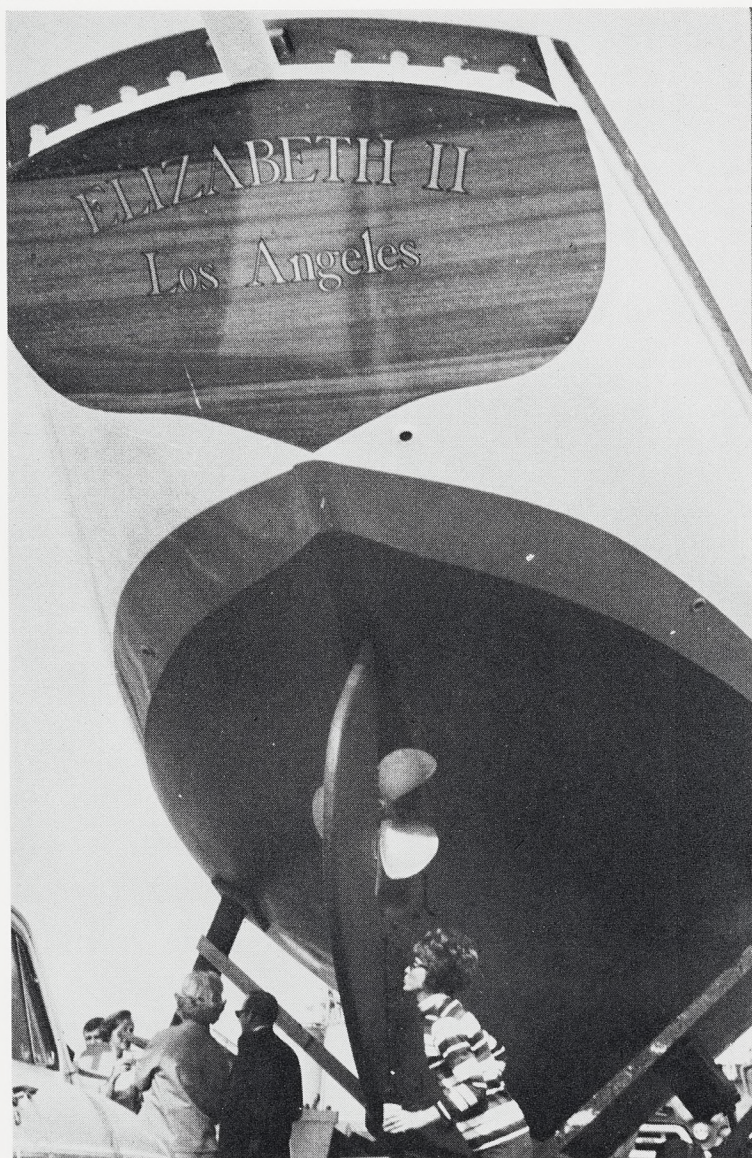
The most recent episode in the saga of Bob's big boat came early in the morning of last March 22, when 13 dockhands at Todd Shipyards in San Pedro gently hoisted the hand-made vessel with a 50-ton crane and lowered the hard-won prize into the water for the first time, just over five years since the laying of the keel.

It all started back in the early 50's when Bob took a correspondence course in yacht design. Then his dream was born. Soon

after he married Liz, a native of DeQueen, Arkansas, who had hardly been near water, he looked at her and suggested, "since we aren't doing anything much on weekends, why not build a boat?" At that moment, their lives began to change.

By the time the keel was laid, Liz realized how the next years of their lives would be spent. "We survived this project," she said, "because we did it as a family. Any other attitude would have been impossible."

They also added to their family while they added to the boat. Robbie, now 6, got a playmate (See **CLAY'S BOAT**, page 5)



Sanded, painted, varnished, kissed.

Photos by Bob Elliott,  
Diane Young and Herb Turner



Down to the sea with their ship.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

**Automobiles For Sale**

**Mustang**, 1967 Fastback, 390 cu. in., 4-spd., p/s, p/disc brakes, \$2,500. 213-325-7351. A

**Thunderbird**, 1967, 4-dr., p/b, p/s, a/c, \$3,900. 213-582-9369, 213-585-1361. A

**Plymouth**, 1964 Valiant convt., 4-spd. trans., r/h, tonneau cover, \$850. 213-374-2756. A

**Cadillac**, 1957 sedan DeVille, full power, fact. air cond., \$150. 213-679-3889. A

**Grand Prix**, 1964, p/s, p/b, new wide oval tires, \$1,395. 213-323-7305. A

**Chevrolet**, 1964, Impala S.S., r/h, p/s, p/b, \$1,250. 213-676-6730. A

**Station Wagon**, 1962 Falcon deluxe, 4-dr., auto. trans., r/h, new tires, brakes, \$700. 213-377-8731. A

**Chevrolet**, 1961 Impala, p/s, p/b, 5 new Atlas tires, \$500. 213-644-2717. A

**Chevrolet**, 1955 Nomad, 283 4-bbl., stick shift, \$400. 213-329-9484. A

**Station Wagon**, 1962 Rambler, 9-pass., fully equipped, \$395. 213-372-9706. A

**Comet**, 1964 Caliente, r/h, p/s, auto. trans., \$750. 213-671-1490. A

**Station Wagon**, 1962 Ford Country Squire, r/h, a/c, p/s, p/b, new 390 eng., new trans. & brakes, \$750. 714-838-4903. A

**Mustang**, 1966, V-8, p/s, auto., r/h, h/top, \$2,000. 714-968-2623. A

**Chevrolet**, 1961 Impala, new paint, \$750. 213-378-1402. A

**Austin Healey**, 1966 Sprite MK III roadster, fully equipped, \$1,380. 213-831-9545. A

**Truck**, 1950 Chev. ¾-ton, '55 6-cyl., 4-spd. trans., w/cabover camper, \$550. 213-374-5792. A

**Pontiac**, 1965 Tempest Le Mans 8 spt. cpe., 38,000 mi., new tires & batt., r/h, \$1,725. 213-454-1572. A

**Volkswagen**, 1966 1600 Variant Squareback, radio, w/w tires, roof-type luggage carrier, \$1,900. 213-788-4548. A

**Chevy II**, 1966 Nova, V-8, 4-spd., \$1,795. 213-862-3027. A

**Cougar**, 1967 GT, p/s, a/c, stereo tape, p/disc brakes, \$3,200. 714-838-8795. A

**Cadillac**, 1956, \$150. 213-370-2214. A

**Chevrolet**, 1957 Nomad, p/s, p/b, flr. shift, tach., chrome whls., new brakes & clutch, \$645. 213-325-8478. A

**Chrysler**, 1965 300L 2-dr. h/top cpe., AM-FM radio, p/s, p/b, 35,000 miles, \$2,300. 213-374-0504. A

**Cadillac**, 1961 Fleetwood, fact. air, all power, \$895. 213-353-0337. A

**Ford**, V-8, 1957, rebuilt 312 eng., \$150. 213-679-4464. A

**Chevrolet**, 1959 Impala, r/h, 283 eng., \$285. 213-545-6233. A

**Comet**, 1962 4-dr., stick shift, \$495. 714-532-1510. A

**Chevrolet**, 1966 Impala S.S., fact. air, new tires, r/h, auto., console, 327 eng., \$2,700. 213-823-3290. A

**Pontiac**, 1966 Bonneville, a/c, wire whls., radio, full power, \$2,495. 213-328-5339. A

**Mustang**, 1966 convt., wire whls., a/c, new brakes, \$1,900. 213-478-1051. A

**Corvette**, 1958, auto., new eng., \$1,600. 714-525-0863. A

**Corvair**, 1960, \$150. 213-376-4831. A

**Chevrolet**, 1963 Impala, 4-dr. h/top, p/s, r/h, 5 new tires, \$1,000. 213-830-4745. A

**Ford**, 1955 V-8, tudor, auto., new brakes, \$150. 213-370-5423. A

**Truck**, 1957 Dodge, ½-ton, 3-spd., \$350. 213-423-4024. A

**Thunderbird**, 1964 h/top, full power, take over \$86.17 mo. pymts., \$1,771 bal. 714-774-7297. A

**Volkswagen**, 1964 2-dr. sedan, w/w, \$1,100. 213-644-3024. A

**Volkswagen**, 1966, radio, new tire chains, 1300 eng., \$1,450. 714-539-7675. A

**Camper**, 1965 Volkswagen, awning w/sides, ice box, stove, water tank, \$1,895. 714-962-1805. A

**Volkswagen**, 1966 sedan, AM-FM radio, htr., \$1,395. 805-495-5324. A

**Chevrolet**, 1967 Impala S.S., console shift, 4,000 mi., p/s, r/h, \$2,500. 213-532-7634. A

**Shelby**, 1967 GT 500, auto., 11,000 miles, \$3,900. 213-675-1365. A

**Chevrolet**, 1964 Impala, 4-dr. h/top, fact. air, 327 V-8, auto., p/s, many extras, \$1,595. 213-327-2279. A

**Station Wagon**, 1956 Ford, \$100. 213-596-8236. A

**Triumph**, 1965 Spitfire MK II, \$1,500. 213-470-4475. A

**Chevelle**, 1964 Malibu S.S., convt., \$1,350. 213-823-2784. A

**Ford**, 1964 Galaxie 500, 427 cu. in., 425 h.p., 4-spd., many extras, \$1,000. 213-941-1769. A

**Automobiles For Sale**

**Chevrolet**, 1962 Impala, 2-dr. h/top, \$875. 213-755-1071. A

**Truck**, 1953 Chev. ½-ton, \$350. 213-325-7605. A

**Chevrolet**, 1959 Impala, 2-dr. h/top, V-8, new auto., \$395. 213-327-2447. A

**Sunbeam Alpine**, 1962 convt., r/h, new trans., eng. & tires, tonneau, \$500. 213-830-2778. A

**Plymouth**, 1965 Belvedere II, 361, 4-spd., mags., \$1,395. 213-424-5992. A

**Oldsmobile**, 1963 F-85, p/b, p/s, radio, Double Eagle tires, \$800. 213-343-7880. A

**Barracuda**, 1967, V-8, auto. trans., p/s, a/c, r/h, other extras, \$2,450. 213-679-0809. A

**Corvair Monza**, 1963 Spyder convt., r/h, \$525. 213-329-2926. A

**Household Items For Sale**

**Washing Machine**, Maytag, deluxe model, \$75. 213-754-9889. B

**Washing Machine**, G.E., \$20. 213-393-2373. B

**Couch**, Hide-A-Way, white Naugahyde, \$30. 213-675-3098. B

**Stove**, O'Keefe & Merritt, \$35. 213-677-3471. B

**Stove**, O'Keefe & Merritt, sep. broiler & oven, \$50. 213-677-6375. B

**Sofa-Sleeper**, corner group, avocado tweed, \$100. 213-675-3645. B

**Refrigerator**, Frigidaire, apt. size, \$20. 213-329-1905. B

**Chandelier**, ruby glass Victorian w/crystal prisms, \$35. 213-320-3529. B

**Twin Beds**, 2 Hollywood, \$50 or \$30 ea. 213-327-6849. B

**Studio Couch**, makes into dble. or twin beds, brown floral reversible cushion & bolsters, \$15. 213-675-2005. B

**Chest-of-Drawers**, Salem maple, high boy, dust liners between drawers, \$20, other items, various prices, 213-675-5522. B

**Garbage Disposal**, Waste King, \$5. 213-675-8813. B

**Crib**, walnut, \$30. 213-835-3869. B

**Dinette Set**, table w/1 leaf, off-white formica, 4 chairs, gold Naugahyde, swivel type, \$60. 714-871-7625. B

**Range**, gas, 40" Kenmore, 4-burner, \$35. 213-323-1698. B

**Dining Room Set**, 3 12" ext. leaves, 6 chairs, 2 corner hutches, \$125. 213-676-3459. B

**Hide-A-Bed**, Lawson, teal blue, \$35. 213-371-6758. B

**Miscellaneous For Sale**

**Camper**, 8½' Kamp King cabover, stove, oven, ice box, king size bed, 12V/115V, \$700. 213-865-3108. C

**Ice Skates**, men's figure, size 9, used once, \$7.50. 213-375-7265. C

**Acreage**, 9/10-acre, improved, Lake Los Angeles, \$2,000 equity, take over \$44 mo. pymts., \$6,000. 213-672-4450. C

**Home**, 5 rooms, furn., landscaped, inc. patio, 2¼-acre, \$14,500. 213-376-4787. C

**Motorcycle**, 1956 Aerial, \$175. 213-391-8072. C

**Guitar**, Gibson, elec., hard case, amp., speaker, \$265. 213-395-5649. C

**Patio Cover**, all metal, screened, 2 doors, 14'x32', \$125. 213-928-2257. C

**TV**, Packard Bell console, 21", blonde, \$25. 213-534-2419. C

**TV**, 21" maple console, \$35. 714-523-0995. C

**Surfboard**, 9' 10", hi-performance skag, \$75. 213-325-5875. C

**Books**, Detective Book Club, \$2.50 ea., other books, various prices. 213-674-1847. C

**House**, 3-bdrm., den, fireplace, 2 baths, gar., \$23,000. 714-826-0507. C

**House**, 4-bdrm., shake roof, block wall, encl. patio, bltin barbeque, fireplace, elec. kitchen, \$28,000. 213-320-6975. C

**Poodles**, toy, AKC reg., 4 females, 2 males, \$70 to \$125. 213-635-2648. C

**Boat**, fiberglass Catamaran, 75 h.p. Evinrude, American tilt trailer, 3 new 6-ply tires, \$1,195. 213-676-7109. C

**Camper**, for El Camino, cabover, sleeps 4, 75 lb. ice box, \$495. 714-633-4656. C

**Tape Recorder**, Akaii, stereo, model M-8, 4-track, 4-spd., 22 rolls of tape, \$300. 213-675-5001. C

**Lot**, ½ acre, bldg. site in Agoura, horses ok, city water, elect. & phones, \$8,500. 213-783-8271. C

**TV**, 12" G.E., portable, \$20. 213-326-5979. C

**Train Layout**, H.O., approx. 60 misc. cars, 5 engs., many extras, mounted on 4'x10' panel, \$110. 213-291-0025. C

**TV-Stereo comb.**, 23" Packard Bell, lime oak, b&w, \$100. 213-323-3675. C

**Typewriter**, portable, Smith Corona, \$19.50. 213-378-1863. C

**Lawnmower**, 17" Craftsman, hand-reel, grass catcher inc. \$15. 213-371-8304. C

**Land**, 130'x165' in Apple Valley near the Inn, \$3,000. 213-676-5101. C

**Power Mower**, Craftsman, 18" reel-type, \$50. 213-329-7447. C

**Extension Ladder**, 24', magnesium, \$40. 805-498-3549. C

**Guitar**, bass, Gibson, hardshell case, bass amplifier, \$150. 213-398-9211. C

**Camper**, Sears tent-trailer, \$225. 213-431-7696. C

**Motorcycle**, 1949 Norton, 500 cc, single & spare motor w/new parts, \$150. 213-423-3887. C

**Miscellaneous For Sale**

**Home**, 4-bdrm., 1¾ baths, new cpts., tile & paint, paneled living rm., fenced yd., sprinklers, dble. gar., FHA, \$16,300. 805-948-1572. C

**Bicycle**, Schwinn 26" tandem, children's seats front & back, \$60. 213-294-0541. C

**Bicycle**, girl's 26" w/basket, \$10. 213-323-4209. C

**Amplifier & Tuner**, stereo, Heathkit Models AA-100 & AJ-41, \$185. 213-434-7791. C

**Movie Camera**, Yashica 8 mm, zoom lens, \$30. 213-329-0086. C

**TV**, 19" Sears, portable, b&w, \$40. 213-672-2370. C

**Wig**, blonde human hair, med. length, \$60. 213-662-1817. C

**Bowling Balls**, 16-lb. man & woman, \$8 ea. 213-372-8019. C

**Pups**, AKC, dalmation, \$75 & up. 213-830-0702. C

**Home**, 4-bdrm., 2 baths, family rm., cpts., dps., recently painted, \$24,500. 714-962-5713. C

**Piano**, upright Stark, maple finish, \$200. 213-375-0061. C

**Amplifier**, 30 W, stereo, Eico preamp, 2 speaker cabinets w/12" spkrs., tweeters & crossovers, \$150. 213-399-8045. C

**Scuba Gear**, \$75. 213-371-5123. A

**Home**, 4-bdrm., 2 baths, den, lge. lot, just refinished, West Garden Grove, \$23,500. 213-596-4215. C

**Motorcycle**, 1965 FLH Harley Davidson, \$1,400. 213-323-6366. C

**Table Saw**, Craftsman 8", ext. table, \$45. 213-679-1606. C

**Phonograph**, port. stereo, twin det. speakers, many records, \$50. 213-320-2827. C

**Mower**, Sears, reel-type, 2¼ h.p. motor, \$45. 213-324-8618. C

**Boat**, 12', alum., 3 h.p. Johnson motor, oars & locks, \$300. 213-598-3552. C

**Lot**, 60'x135', 200' el., 1 block from ocean, approved grading, pad, 2,000 sq. ft. bldg. plans, \$19,500. 213-833-2512. C

**Camper-Trailer**, teardrop, kitchenette, sleeps 2, 7'x10' tent, 2 new 6-ply tires & tubes, \$395. 213-371-9665. C

**Machinist Tools**, calipers, \$1.50; carboloy bits, 20¢ ea., many others, various prices. 213-324-6748. C

**Movie Light**, Super 8, Bell & Howell, fits on top of movie camera, \$10. 213-651-0445. C

**Suitcases**, 2 men's, tan leather, \$25 ea. 213-379-9553. C

**Extension Ladder**, 14' aluminum, \$6. 213-293-5993. C

**Ski Boat**, 16' custom-built Bristol, 75 h.p. Mercury, trailer, \$1,400. 213-867-4342. C

**Apt. Units**, 2, on C-5 lot, in Long Beach, low down, \$14,000. 213-371-6918. C

**Pup**, Labrador retriever, female, AKC, 16 mos. old, shots, \$250. 213-675-3557. C

**Stereo**, RCA portable, 4-spd. phonograph w/det. speakers, \$75. 213-756-3472. C

**Amplifier**, Scott 120 W, FM tuner, Wharf-Dale speaker cabinet, \$800. 213-325-6890. C

**Sailboat**, 11' centerboard, all extras, \$365. 213-325-4094. C

**Golf Clubs**, 1967 Palmer irons, 1-3 wedge, D3 swing wt., stiff shafts, \$110. 213-634-8423. C

**Acreage**, 5 acres in Antelope Valley, \$35 dn., \$35 mo., 6% int., \$3,500. 213-378-1026. C

**Trailer**, for carrying 2 motorcycles, new lights, \$125. 213-867-1476. C

**Typewriter**, Royal manual, port., carrying case, elite type, 10" carriage, \$25. 213-675-4752. C

**Boat** trailer tires, 3 General, 570/500-8, mounted on 4-hole whls., \$15 ea. 213-325-2292. C

**Aquarium**, 8-gal. show tank, Dynaflo filter, other access., \$15. 213-379-8888. C

**Trailer**, 4'x8', utility & 2" ball, \$50. 213-631-6428. C

**Binoculars**, Leitz Trinovid 10x40, waterproof, hard leather case, \$200. 213-379-3487. C

**Lots**, near East Fork, Lake Isabella, small down, \$1,650 to \$2,200. 213-323-4329. C

**Fire Detection Alarm**, never used, 8 units, EMDEKO Honeywell System, \$100. 213-675-3948. C

**Honda**, 1966 305 Scrambler, \$450. 213-325-1075. C

**Camera**, Mamiya/Sekor SLR f1.4, TL 1000, \$180. 213-861-4798. C

**Bicycle**, 10-spd. Phillips, \$25. 213-831-4586. C

**Trailer**, 28' Pacemaker, \$600. 213-329-7218. C

**Wig**, human hair, med. auburn, \$30. 213-676-7379. C

**Tape Recorder**, Webcor, 4-track, stereo, \$75. 213-329-1705. C

**Wood Lathe**, 8-spd., motor, stand, access., \$70. 213-944-5946. C

**Acreage**, 5 acres, 2 mi. from Lake Los Angeles, \$400 dn., deed, releases, ½ oil & mineral rights, \$5,400. 213-482-7031. C

**Train Set**, Lionel, Santa Fe diesel w/magna-traction, 6 auto. switches, approx. 100 pcs. track, many access., \$40. 714-635-3315. C

**Books**, set of 27 Tom Swift, \$18. 213-882-0761. C

**Wig**, strawberry blonde, European human hair, shoulder length, stand, \$150. 213-675-5963. C

**Tape Recorder**, auto., 8 track, 4 spkrs., for auto., converter for home, 4 tapes, \$100. 714-635-7494. C

**Miscellaneous For Sale**

**Piano**, baby grand, Emerson, mahogany finish, \$490. 213-375-8778. C

**Sailboat**, 18' Catamaran, dac. main & jib, trailer, \$800. 213-374-1133. C

**Pipe Rack**, overcab, for pickup, \$5. 213-371-6775. C

**Mobile Home**, 20'x50' Flamingo, on landscaped lot, \$9,000. 213-348-1053. C

**Apt**, 6 units, 5 mins. from Northrop, enc. gar., low dn., assume low interest loan, \$54,000. 213-679-7963. C

**Table Saw**, mounted on wooden cabinet, \$40. 213-325-3724. C

**Power Mower**, Briggs & Stratton motor, reel-type, \$35. 213-676-2162. C

**Kayak**, 14', lightweight, \$50. 213-372-3827. C

**Transmission Cases**, 2 for 1951 Chevrolet w/misc. gears, \$10. 213-758-9182. C

**House**, 3-bdrm., 3 blks. to beach, cpts., dps., fenced, lge. fam. kitchen, bltins, 10 mins. to Nortronics, \$26,950. 714-774-2779. C

**Pup**, basset, male, AKC reg., black-tan-white, 6 wks. old, \$50. 213-322-0678. C

**Lot**, ½-acre, in Apple Valley, water meter, gas & electricity, \$150 dn., \$25 mo., \$1,995. 328-7048. C

**Cabin Cruiser**, 27' Chris Craft, sleeps 4, s/s radio, completely equipped, \$4,750. 213-329-3900. C

**Wanted to Buy**

**Volkswagen Engine**, 1961 or later, & trans., floorpan, or entire car. 213-322-7869. D

**Spraying Equipment** for auto painting, below \$50 price range. 213-370-7092. D

**Wheels**, 16" from Chevrolet or Pontiac. 213-375-0449. D

**Hardtop** for 1957 T-Bird w/portholes. 213-294-2014. D

**Free (To Be Given Away)**

**Pup**, 8 mos. old, male, mixed, pred. terrier, to family w/children & fenced yd. 213-635-3056. F

**Rentals Offered**

**Cabin**, Green Valley Lake, \$25 w/end; \$45 wk. 213-324-0649. G

**House**, 3-bdrm., 3 blks. to beach, cpts., dps., bltins, pvt. patio, \$230 mo. 213-378-0187. G

**Cabin**, A-frame, furn., sleeps 5, 40 miles west of Colorado Springs, close to stream & lake, \$70 wk. 213-894-1937. G

**Cabins**, Lake Gregory & Crestline, sleep 6, make reservations for June-Sept., \$25 w/ends; \$60 wk. 213-391-2040. G

**Cabin**, Lake Arrowhead, 200 feet from lake, \$100 wk. 213-375-2255. G

**Cabin**, Lake Arrowhead, near lake & village, fireplace, patio, \$60 wk. 213-761-9645. G

**Cabin**, Green Valley Lake, \$35 w/end; \$55 wk. 213-320-2002. G

**House**, 3-bdrm., unfurn., in Thousand Oaks, newly painted, cpts., dps., lge. fenced back yd., \$160 mo. 213-372-1259. G

**Cabins**, Idyllwild, 1 & 2 bdms., fireplace, stream, patios, \$20-\$35 w/ends; \$45-\$75 wk. 213-754-5288. G

**Rentals Wanted**

**Garage**, in Lomita area, for car storage. Must have electricity avail. 213-325-4860. H

**Rides and Riders**

**Rides Offered**

**7 a.m. — 3:42 p.m.**

**Hawthorne Blvd. & Del Amo Blvd. or 190th St.**, Torrance. Donald Batty, Norair ext. 1289, 2236, 213-371-0210.

**8 a.m. — 4:45 p.m.**

**Edinger & Beach Blvd.**, Huntington Beach. Dale Ebersole, Nort. Haw. ext. 616, 617, 714-847-7345.

**4:42 p.m. — 1:12 a.m.**

**Between 102nd St. & 104th St. on Yukon Ave.**, Inglewood. Prefer female driver, willing to pay, Dodie Lehde, Norair ext. 2184, 213-671-0342.

**Rides Wanted**

**8 a.m. — 4:45 p.m.**

**Edinger & Beach Blvd.**, Huntington Beach. Dale Ebersole, Nort. Haw. ext. 616, 617, 714-847-7345.

**Rentals Wanted**

**Ski Boat**, 16'-18' for week of June 15 thru June 21, 75 h.p. plus. 213-397-4732. H

**Apt**, 1 or 2-bdrm., unfurn., for 1 month in June, between Del Amo & Norair, no children, up to \$120. 213-329-4894. H

**Personals**

**We** wish to express our gratitude for the flowers, cards & kind expressions of sympathy in the loss of our wife & mother, TOM SMITH & SONS, TOM & DENNY. L

**Your** thoughtfulness meant so much. The finest gift was they who gave their time to wish me well on retirement, thank you. JAMES T. JOHNS. L

**Thanks** to all of you for your kindness, help & concernment at the loss of our son & brother. THE PIERCES. L

**Flying** to Mulege, Baja, Calif. May 23-26, room for 4 more persons, share expenses. 714-847-2648. L

**Sincere** thanks to the many friends & co-workers who made my retirement party & years at Northrop so enjoyable. Also, for the transceiver which will provide many happy hours. EDGAR A. FREITAS. L

**For Sale or Trade**

**Pump**, Hawthorne, elec., ½ h.p. w/filter attachment, suitable for 4' x 15' Doughboy swim pool, \$30 or trade for ping pong table, folding type w/paddles & net. 714-534-6180. M

**Home**, stucco, in Inglewood, 3-bdrm., 2 baths, den, cpts., h/wood flrs., 2-car det. gar., patio, b/wall fence, \$9,000 equity, \$26,000 or trade for land or home in Malibu Canyon or Thousand Oaks area. 213-671-8401. M

**Honda**, 1967 305 Scrambler, 2500 mi., alloy front fender, \$500 or trade for desert-ready Hodaka. 213-644-4289. M

**Cadillac**, 1967 convt., full power, AM-FM stereo radio, auto. htr. & air cond., \$4,950 or consider transportation car in trade. 213-322-7158. M

**Camper-Van 90**, Chev., V-8, fact. installed camper unit, sleeps 2, hvy. duty equipped, \$2,900 or trade for transportation car. 213-672-4231. M

**Volkswagen**, 1963 Westphalia camper-bus, \$1,595 or trade for ski boat, 16' Glasspar w/75 h.p. eng. or equal. 213-321-4801. M

Bob Clay's Boat — 52 Feet, 11,000 Hours, 23 Tons

(Continued from page 4)

in the Gardena shipyard when Chuck was born, two and one-half years ago.

At the end of five years labor, Bob and Liz have more than 11,000 man/woman hours invested into the effort.

Bob Elliott, close friend of the Clays, and a Norair Graphics coordinator, says: "It's one of the most fantastic projects I have ever witnessed." He lettered the transom and assisted occasionally in other construction but, in his words, "what little help I—or any others—gave was negligible. The project was truly a one-man endeavor."

Liz: "He's right, it is 99 per cent Bob's boat. Even after seeing it go up piece by piece, week-end by weekend, I still can't believe it."

"The biggest obstacle to overcome was the desire to join others in their boats on the week-ends," says Bob, "but a weekend spent on another boat would have put us a week farther from our own."

The only setback of any significance came when Bob was transferred back east for three months one summer. Because of

good weather and extra daylight working hours lost, this cost the Clays about a year.

A major assist to the project came when Hank Young, still another Nortronics employee, heard of a salvage operation being performed on the Island Girl, which had run aground off the Palos Verdes Peninsula. Bob got a "great buy" on valuable items from the wrecked schooner.

Other material used in the construction came from The Philip-pines, Africa, Burma and India. The 52-foot schooner will weigh 25 tons when fully outfitted and rigged.

Elizabeth II is unique for at least one other reason. It was built from the inside out. Most shipbuilders do the job in reverse.

Just a week ago, Bob made the 65-horsepower Hercules engine operational. By mid-summer, the Clay family hopes to be in permanent residence on board Elizabeth II.

The final phase toward Elizabeth II's becoming truly seaworthy will begin when the sails are delivered early next month. Then, Bob will step the 54-foot and 62-foot masts and complete the rigging.



## Five Learn Machine Shop Techniques Through O.J.T.

Five men are in the midst of a nine-week machine shop training course at Northrop Ventura; a project coordinated jointly by Ventura and by the Mexican-American Opportunity Foundation.

The men—Dave Zuniga, Mike Kaplish, Peter Maes, Mike Webb and John Marquez—are classified as machine shop workers. They report to Bob Preucel, general foreman of Metal Fabrication.

The Mexican-American Opportunity Foundation, headquartered in Oxnard, seeks to find employment for men from disadvantaged areas. Each of the five new trainees completed a machine shop course at Buena High School in Ventura, conducted by the Ventura County Unified School District.

"By taking the course, these men have put forth an effort,"

Northrop Ventura's Al Robinson, of Professional Development and Training, said.

"Our feeling is that a man who invests such an effort in seeking training deserves the opportunity to put that training to work. We're pleased with the program."

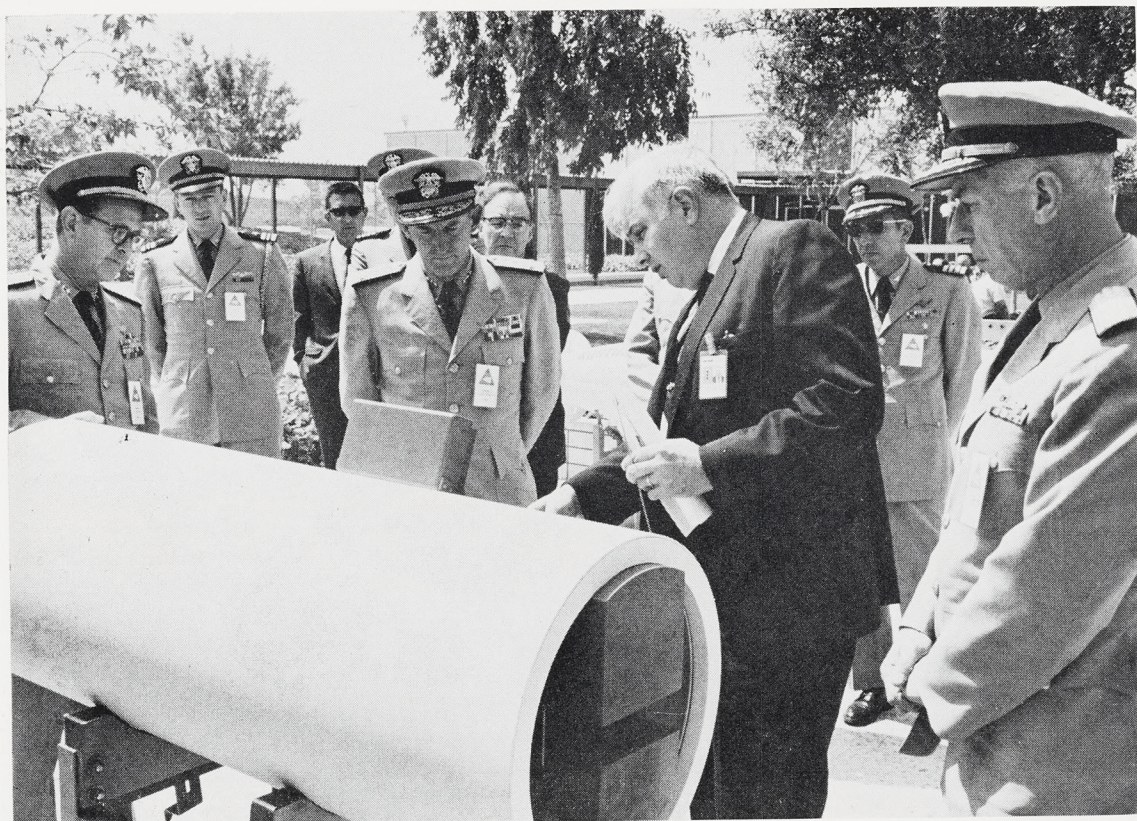
John Biason of Ventura's Employment branch explained that trainees are hired through Joe Anguiano, who operates the Oxnard office of the government-funded Mexican-American Opportunity Foundation.

"We plan to expand the on-the-job training to provide trainees from the MAOF for the Quality Control branch," he said. "Many trainees have gone on to take other job-related courses at night; in blueprint reading, numerical control, and similar studies. We encourage this whenever possible."



**ON THE JOB**—Pete Maes (second from right) watches while Murph Di Pasquale (left), night leadman in Metal Fabrication, prepares a setup on a horizontal milling machine. With them are Bob Preucel (right), general foreman of Metal

Fabrication, and Joe Anguiano, who operates the Oxnard office of the Mexican-American Opportunity Foundation. Mr. Maes is one of five trainees in the machine shop.



**UNDERWATER TARGET**—Gus Duke, program manager for Northrop Ventura's Mobile Anti-Submarine Warfare Target, explains the function of a mockup section to Vice Admiral H. G. Bowen, the Navy's Anti-Submarine War-

fare commander for the Pacific. Touring with Admiral Bowen last week were Vice Admiral T. F. Caldwell (left) and Rear Admiral W. C. Abhau (right).

## GUARD OF THE MONTH



Officer William Marsden (right), a security guard at Northrop Ventura, is the winner of California Plant Protection's Officer of the Month Award. He was selected from more than 600 security officers throughout Southern California. Presenting him the honor is Thomas W. Wathen, president of California Plant Protection.

## GOOD HOUSEKEEPING AWARD



Robert Provart (left), chief of Design Engineering at Northrop Ventura, receives the Good Housekeeping Award from George Grogan, Ventura vice president and manager of Engineering. The plaque is presented monthly, honoring employees in the work area judged as cleanest by a special committee. This award was for the month of April.



**FULL-SCALE MOCKUP**—Vice Admiral T. F. Caldwell (right), the Navy's director of Anti-Submarine Warfare Programs, examines a mockup of Northrop Ventura's Mobile Anti-Submarine Warfare Target. Behind him is

Welko E. Gasich, Northrop vice president and Ventura general manager. Three key admirals toured Northrop Ventura last week. Mr. Gasich was their host.



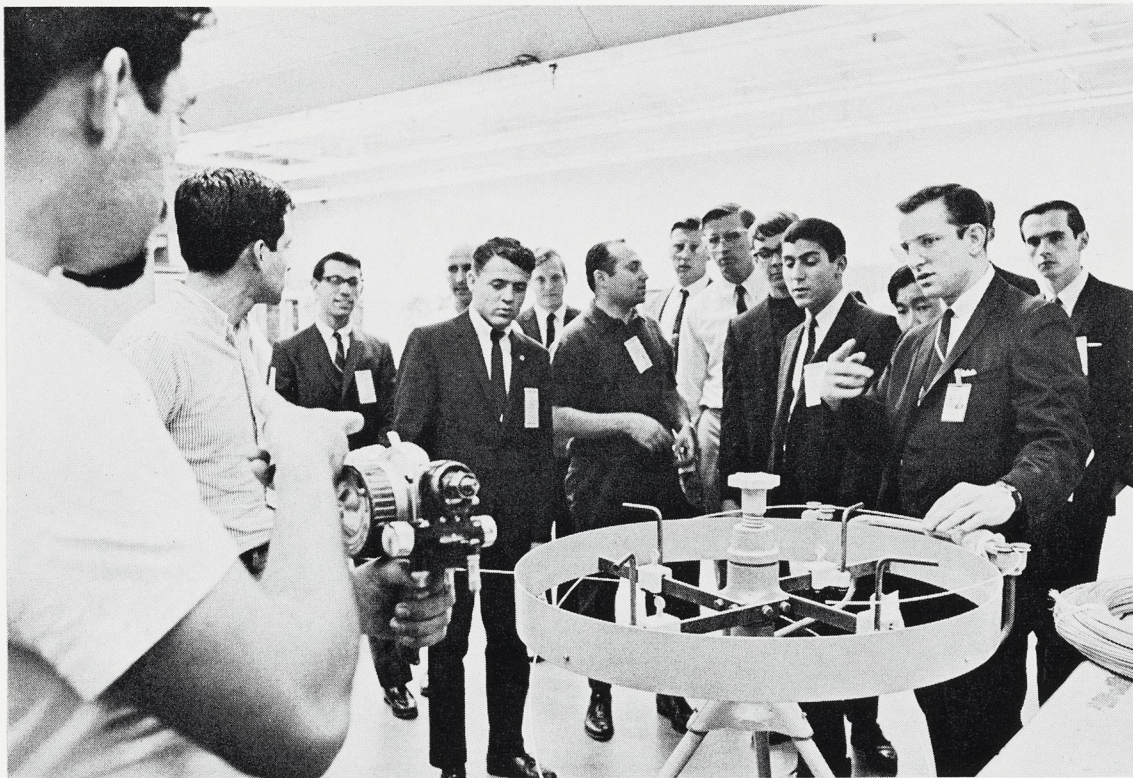
# NORTHROP NEWS

NORTHROP VENTURA

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May 22, 1968



**ENGINEERING STUDENTS** — John Biason (at right, with safety glasses) shows students from San Fernando State College how the metal flame spray gun used on the 747 Program

works. Mr. Biason led the visiting engineering students on a recent tour through Northrop Ventura Manufacturing and Engineering facilities.

## Admiral Lacy In Management Club Address

Rear Admiral Paul L. Lacy, jr., who last year was commander of Navy Support Activities in South Vietnam, discussed the Navy's role in Vietnam before members of the Northrop Ventura Management Club.

Admiral Lacy was commander of the Naval Support Activity at Danang, the Navy's largest overseas shore-based command. For his work in this capacity, he was awarded the Distinguished Service Medal.



Admiral Lacy

A near capacity audience at the Los Robles Inn in Thousand Oaks heard the admiral discuss the Navy's past, present and future participation in Vietnam.

Admiral Lacy was born in Dallas, and attended Southern Methodist University, the United States Naval Academy and UCLA.

When Admiral Lacy was dep- (See **ADMIRAL LACY**, page 6)

## June 4 Primary Nearing; Voters' Attention Urged

Northrop employees will be facing a number of tough decisions in the next two weeks.

That may not be anything new to a lot of people, but the Northrop News is urging fellow employees to give a little extra attention to the many issues and candidates with which members of all political parties will be faced on June 4, date of the California primary election.

Everyone who is registered, regardless of residence, will be voting for delegates to national conventions (Presidential nominations), U.S. Senators, Representatives to U.S. Congress, and members of state senate and assembly.

Remainder of the ballot will be devoted to local issues and will vary depending on the county of residence.

Those who neglected to register in time for the primary still will be able to vote in the general election November 5, providing they register between August 7 and September 12. Northrop is presently studying ways in which the company can help employees to register and to obtain information about the general election.

Polling places will look a little different this year in Los Angeles County as IBM Vote Recorder machines have replaced the old rubber stamp and ink pad. A ballot card and envelope will be handed you as you sign in at the precinct. Voters will punch the ballot card with a small stylus in the voting booth. Computers will do the counting this year.

For those who have moved recently and were not yet qualified to register, and for those who will be out of town, absentee ballots will be available until May 28 by writing to the County Registrar of Voters. They must be returned by 5 p.m., June 3.

## Study Team Review Nearing Conclusion

Team Members Interview 1,350, Distribute 1,485 Questionnaires

A month-long review of all operations at Northrop Ventura will conclude next week, Co-Chairmen Ward Dennis and Bob Catlin announced.

Mr. Dennis, Northrop's Corporate vice president of Forward Planning, said the seven study teams have distributed an estimated 1,485 questionnaires to employees, and have interviewed approximately 1,350 employees.

By May 29, he said, the results of the in-depth study will be submitted to Welko E. Gasich, vice president and Ventura general manager.

Mr. Catlin, manager of Quality Control at Northrop Norair, said the study is one of four currently being conducted throughout the divisions and subsidiaries of Northrop. Others are taking place at Norair, Nortronics and Page Communications.

Seven such studies have been completed. The current Northrop Ventura review is the largest yet to be conducted in company history, Mr. Dennis said, and marks the first time that an entire division has been studied at one time.

The study team members—47 in all—included 27 Northrop Ventura employees (about 60 per cent), with the remainder representing other divisions and subsidiaries. In turn, Ventura has supplied study team members for other reviews throughout the company.

This was the second study held at Ventura. A two-week review took place in a portion of the Engineering department in February.

At the time the present study began, Mr. Gasich called it "one of the most important analyses conducted by this division."

"One of the biggest challenges with which we are faced," he said, "is the identification and control of cost problems which tend to accompany rapid increases in business activity. It is to this challenge that we must direct our management attention and resources."

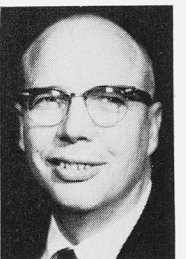
Questionnaires were circulated to all employees except those who were not available at the time of the study, Mr. Catlin said.

## Fisher Speaks At AMA Seminar

Lew Fisher, Northrop Ventura supervisor of Configuration Management, has returned from San Francisco, where he recently addressed an American Management Association seminar.

Mr. Fisher was one of four guest speakers during the three-day program. He outlined the field of configuration management at Northrop Ventura, presenting examples of customer requirements and some training techniques used to implement configuration management at Northrop Ventura.

His topic was, "Configuration Management Training."



Mr. Fisher



**APOLLO VETERAN** — Maydeen Garrison (left) watches as Astronaut Richard Gordon signs an autograph for a Northrop Ventura employee. Mrs. Garrison—who has worked on the Mercury and Gemini Programs as well—was a guest of honor at a luncheon held when the astronaut visited Ventura. She has been with Ventura for 11 years.

## ON THE APOLLO

### Maydeen Garrison — A Parolab Veteran

The deft fingers of Northrop Ventura's Maydeen Garrison are fashioning what her colleagues refer to as built-in safety in Apollo astronauts' parachutes.

She's a senior sewing machine operator in the Ventura Parolab, and one of very few employees to work on all three manned space systems—Apollo, Mercury and Gemini.

So what do you suppose Mrs. Garrison does as a hobby at her home in Reseda?

She makes her own clothing. Mrs. Garrison, a widow, has

been sewing and making clothing since she acquired the skill at the Texas School for the Deaf, in Austin. There, she also learned to read lips and to talk. Mrs. Garrison has been unable to hear since she was born, but certainly doesn't consider this a handicap in her work in the Parolab.

Because of her lengthy service on the parachute programs—and her many contributions to those programs—Mrs. Garrison was chosen as one of the guests of honor last month at a luncheon held when Astronaut Richard Gordon toured Ventura.

Mrs. Garrison sat at the head table, and was introduced to Mr. Gordon, a U. S. Navy commander and one of the Apollo astronauts.

Mrs. Garrison has been working on Apollo parachutes exclusively for nearly five years. She joined Northrop Ventura on May 8, 1957, one year after moving to California from her native Texas. She is from Mt. Pleasant, Texas.

While living in Texas, Mrs. Garrison once owned and operated a cleaning and tailoring business and, at another time, was a full-time dressmaker.



## Third Quarter Earnings Show 40 Per Cent Climb

Northrop Corporation recorded a 40 per cent increase in earnings for the third quarter ended April 30 over the same period of last year and a 28 per cent increase in earnings for the first nine months of the current fiscal year, compared with the same period a year ago, President Thomas V. Jones reported last week.

Earnings for the third quarter were \$4,204,000, compared with \$3,007,000 for the same period a year ago. Earnings for the first nine months were \$10,746,000, compared with \$8,402,000 for the same period of last year.

Per share earnings for three months were 89 cents per share on a weighted average of 4,535,293 common shares outstanding through April 30, compared with

67 cents per share earned on a weighted average of 4,236,759 shares for the prior year.

Per share earnings for nine months were \$2.28, up from \$1.94 for the same period a year ago.

Sales for the three months were \$117,522,000, compared with \$127,799,000 recorded a year ago. Sales for nine months were \$349,326,000, up from \$341,043,000 reported a year ago.

Backlog was up 23 per cent over a year ago, \$752,525,000 compared with \$612,920,000.

"Our third quarter earnings resulted from increased profitability across many of our programs and reflect the company's broadened diversification over the past several years," Mr. Jones said. "The results indicate that the full year will confirm our earlier forecast for sales somewhat above fiscal 1967 and earnings substantially higher than last year's."

## Memorial Weekend Camping Trip Set

Northrop Wanderers will hold their annual Memorial Day weekend campout this year at Oak Springs Ranch, near Hemet.

The ranch provides electricity and water hookups, showers and restrooms, a clubhouse, swimming pool, hiking trails, horseback riding, large bore rifle range, trail bike roads and an abundance of shade trees.

Saturday night a "potluck" dinner, Hawaiian style, will be staged. Each family will bring a Polynesian or Cantonese dish. Costumes are invited and leis and orchids will be available.

Contact Ed Jaeger, Ext. 2075 at Norair, for information.

## Tickets Available for Music Center Show

Discount tickets for four performances of "In the Matter of J. Robert Oppenheimer" at the Mark Taper Forum, Los Angeles Music Center, are available through Personnel Activities outlets.

Regular \$6.30 tickets sell for \$3.50.

Tickets are available for June 16, 23 and 30 and July 7. All performances start at 7:30 p.m.

This is the American premiere of "Oppenheimer," starring Joseph Wiseman and presented by the Center Theater Group.

## Secretaries Attend National Convention

Two secretaries of top Northrop Corporation executives represented the company last week at the 21st annual convention of the Executive Secretaries, Inc.

Evelyn Purpus, secretary to President Thomas V. Jones, and Irma Nikodem, secretary to Senior Vice President Robert R. Miller, attended the three-day convention in Los Angeles.

Mrs. Purpus became Northrop's representative to the group in 1954, and Mrs. Nikodem became an associate member two years later.

Chapter representatives from throughout the United States and Canada attended the meeting, which was highlighted on Saturday by a banquet at which Governor Ronald Reagan spoke.

Membership in Executive Secretaries is held by leading firms in each chapter city. Northrop has represented the aerospace industry in the Los Angeles Chapter since 1954. No more than 101 women may belong to each chapter, under the group's bylaws, and members must be secretaries to top company officials.

Northrop was one of the sponsors of this year's convention.



WATTS WALLOPER baseball bat plaques are the first product of the unique self-help, non-profit Green Power Foundation. Its president is Norman Hodges (left), a chemist who has returned to South Los Angeles to head the drive to employ the "unemployables." Another of the 153 successful Negroes offering his direct personal assistance is Nortronics' Hollis Smith, a

senior engineer in Advanced Avionics at Hawthorne. Soon, Watts Wallopers will be used in the majors. For now, plaques go to those who contribute \$10 toward helping the foundation become self-sufficient. Northrop is among several companies which have assisted the Green Power Foundation in establishing the Watts Walloper enterprise.

## ORDAP Concludes German Study

The successful conclusion by Northrop of a seven-year program to establish a modern military Operations Research capability in Germany has been announced by James L. Taylor, Corporate director of the Organization for Development Assistance Program (ORDAP).

Several teams of company personnel were pulled together from various divisions to perform the work. The Northrop teams trained German personnel in modern scientific methods of Operations Research (OR) and Analysis. Their main goal was reached at the completion of the program when the "students" took over the work.



Mr. Tombach

The program began in 1961 when Mr. Taylor went to Germany as head of the first team. In 1964 Mr. Taylor returned to the Corporate office and was succeeded by Harold Tombach, who remained there until completion of the program at the end of March this year.

Other team members who have returned to Northrop are: James Watson, Carl Hoffmayer, Stephan Van Norman, and Gene Shinosake, all of Norair; Charles Krebs of Nortronics, and Herman Von Guerard, Ventura.

Messrs. Taylor and Tombach also served as scientific advisors to the German Ministry of Defense (GMOD), over-all sponsor of the OR program.

As Northrop personnel pulled out at the completion of the program, they left behind an institution of nearly 150 German professionals fully qualified in the

use of scientific decision-making methods and equipment. They were trained in the application of scientific decision aids to augment judgment and experience as required in long-range planning.

The program had five major objectives:

Demonstrate the utility of OR studies for the solution of GMOD decision problems;

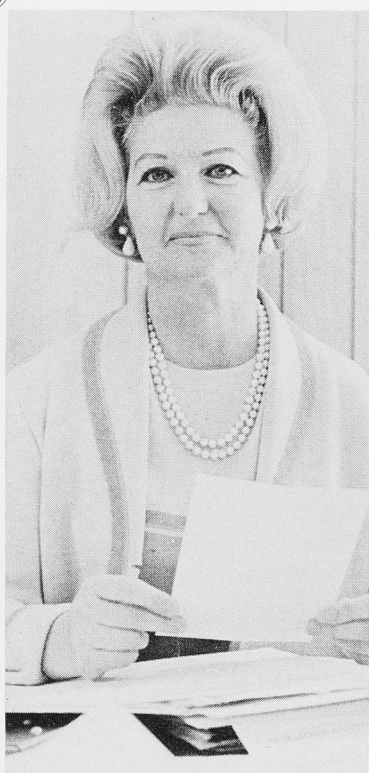
Establish an efficient German military OR organization and assist in its management;

Train German scientists in the application of OR to real military problems;

Develop German OR project leaders;

Accelerate the conduct of OR studies in order to provide the GMOD with early decision aids.

Success of the program is indicated by letters of appreciation sent by the GMOD to Northrop (See ORDAP, page 4)



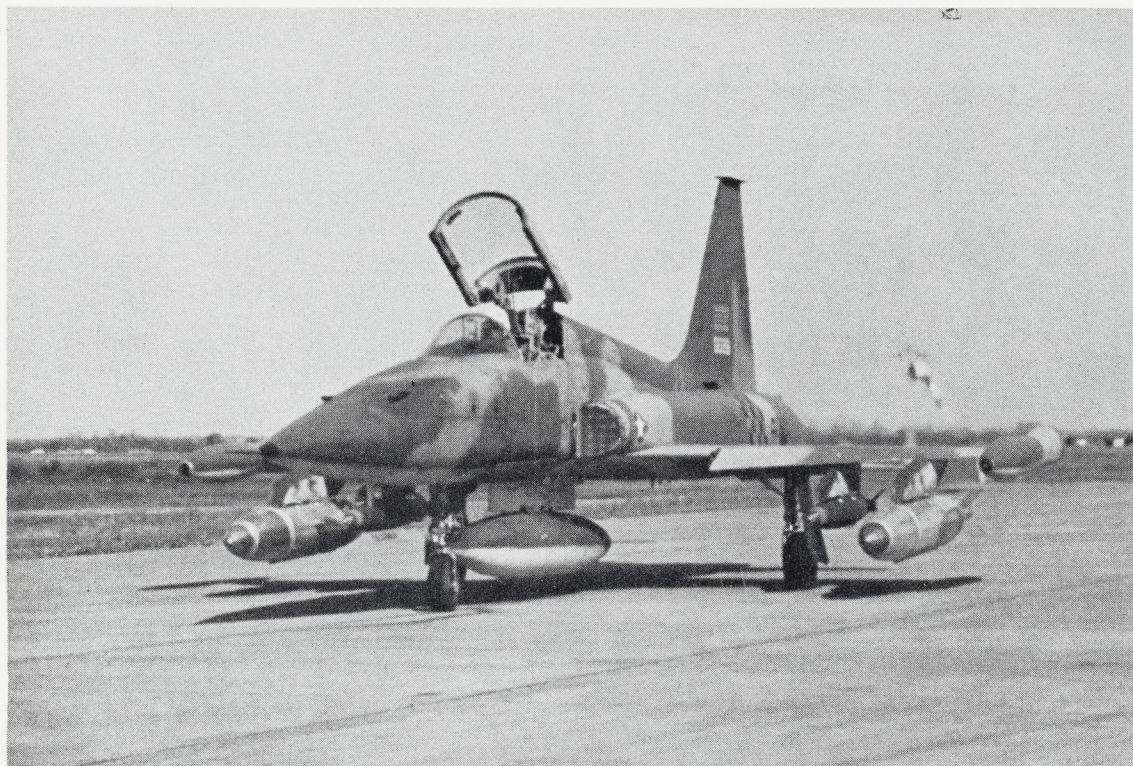
REPRESENTING Northrop at Executive Secretaries, Inc. 21st annual convention in Los Angeles last week were Irma Nikodem (right), secretary to Senior Vice President Robert R. Miller; and Evelyn Purpus, secretary to President Thomas V. Jones.



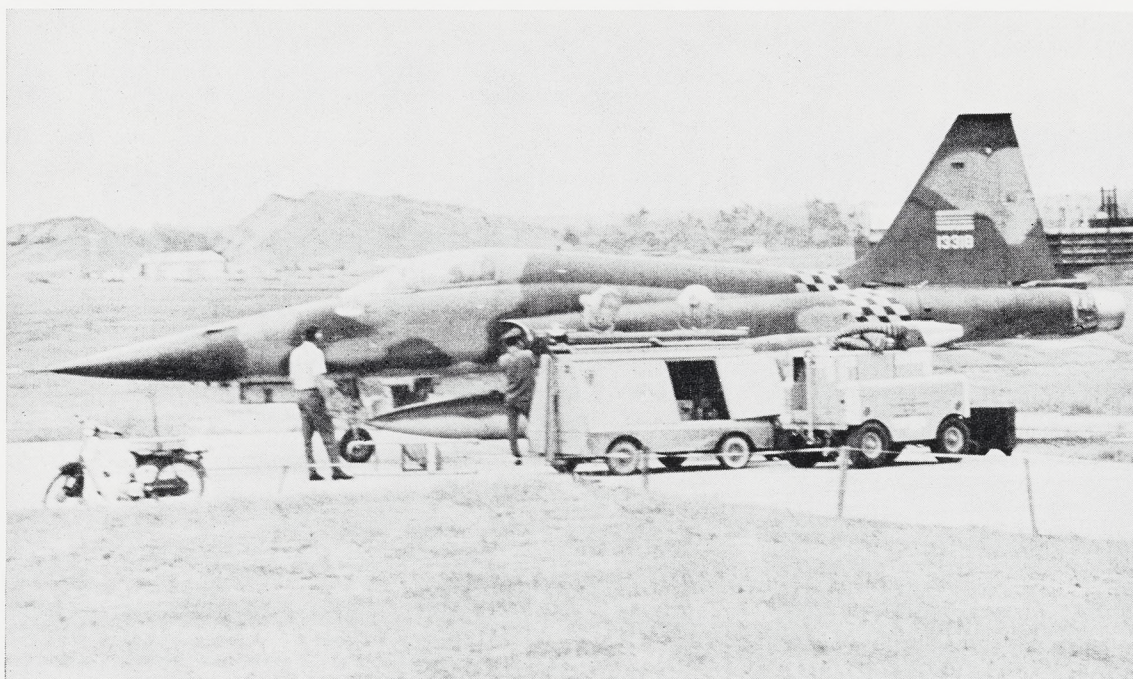
HISTORY MAKERS—Colonel R. B. Ludeman, commander, 3525th Pilot Training Wing, is congratulated by Hank Waklee, F-5 Field Training supervisor at Williams AFB, Arizona, after

piloting aircraft which logged 4,000th hour of flight for first Air Training Command T-38 to reach this mark. Looking on is Lt. Colonel R. Hubka, chief of Maintenance, the co-pilot.





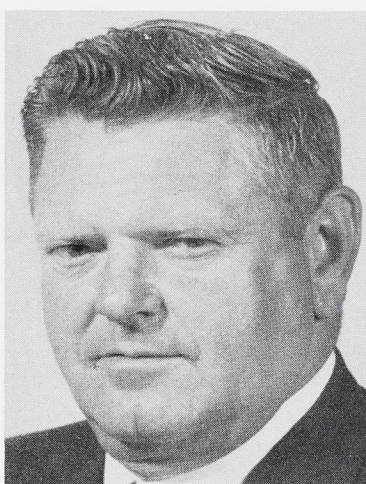
Sgt. John Henrich, a Northrop Employee's Son, Took This Photograph



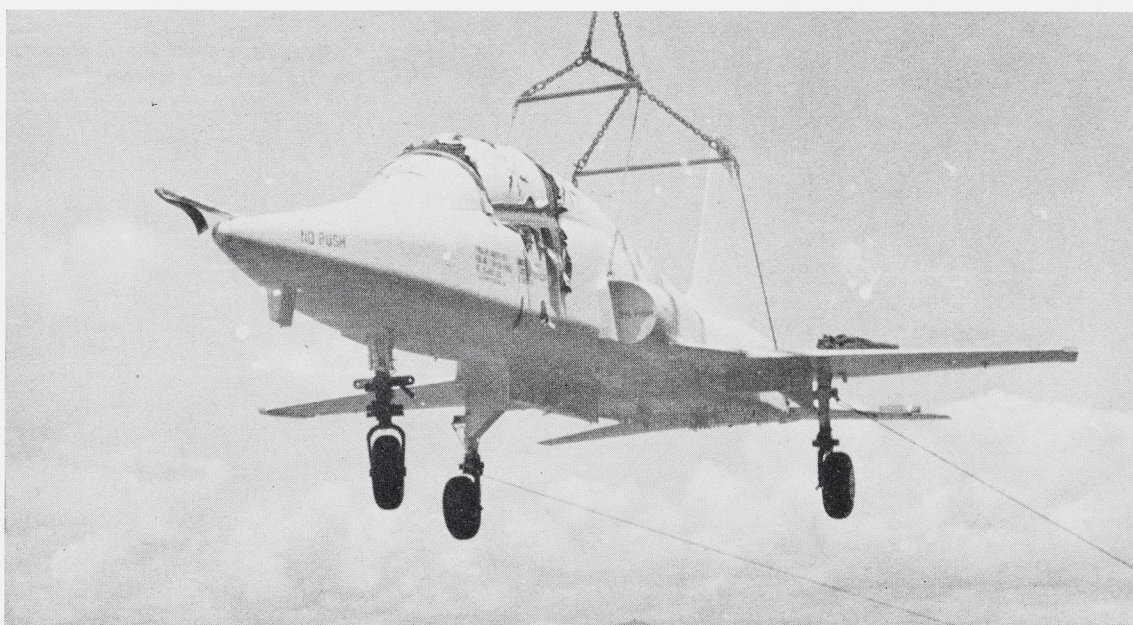
Vietnamese F-5 Goes Through Engine Runup



Tech Reps Davis, Tate, Mann, Christensen



Al Christensen



An F-5 Arrives for Duty in South Vietnam

## Norair's Christensen— A Tech Rep Returns From South Vietnam

Al Christensen, Northrop Norair technical representative just back from 17 months in Vietnam, reports Northrop F-5's are in daily action with South Vietnam pilots at the controls.

Mr. Christensen is a 26-year aerospace veteran and was a Navy flight engineer in World War II.

He came to Northrop in 1961 and worked at Rapid City, South Dakota. He returned in 1964 as a flight test mechanic at Edwards AFB. In 1966 he was selected for an eight-month tech rep training program and went to Vietnam in November of that year. His duty there is the longest served in that country to date by Norair tech reps.

Like other tech reps with whom he served, Mr. Christensen found constant adjustment a part of his daily life in Southeast Asia.

His day and night work schedule included adjustment to Viet Cong attacks as well as weather extremes such as rain, blowing dust, heat and humidity.

A rewarding experience, Mr. Christensen says, was the smattering of the Vietnamese language he learned and practiced while visiting homes of Vietnamese with whom he worked. He played cards, shared their food and added to their meager fare when he could.

"By our standards these people are poor, but they are proud and they are gracious hosts," Mr. Christensen said.

What did he bring home from Vietnam?

"Two things," Mr. Christensen said. "They are intangible, personal. One is a better understanding of the Vietnamese people. The other is a feeling I have helped to accomplish something, of having contributed to something worthwhile that will be remembered long after I am gone."

Mr. Christensen was stationed about 20 miles from Saigon at Bien Hoa Air Base, whence most

F-5 missions originated.

The Northrop F-5 has become a familiar sight throughout Vietnam.

Transfer of F-5 tactical fighters from the U.S. Air Force to the Vietnamese Air Force in June 1967 was accomplished with a minimum of difficulty, Mr. Christensen reports.

Assisting in the transition were Norair Tech Reps Jack Mann, Lloyd Tate and Ken Davis, and, of course, the USAF. Personnel of the 10th Fighter Commando Squadron were especially helpful in working closely with their VNAF counterparts.

"We felt the changeover went very smoothly, although it was made under combat conditions," Mr. Christensen said.

The F-5 is the VNAF's first jet fighter and the average pilot has logged more than 1,300 hours of flight time, much of it in combat. Most of the pilots have 200 hours in the F-5.

A majority of the pilots and many of the maintenancemen, Mr. Christensen said, were trained at Williams AFB in Arizona.

"These combat airmen," Mr. Christensen said, "utilize the versatility of the F-5 to the maximum in flying every type of mission."

He also had high praise for the efficiency of the Vietnamese maintenance crews who wage a constant battle against corrosion and other damage from foul weather.

"I wish every Northrop man and woman who works on the F-5 could spend a few days with the VNAF in action," Mr. Christensen said. "It would be the best possible endorsement of painstaking craftsmanship, doing the job right with the knowledge a life may hang in the balance."

During his stay in Vietnam, he shared a hut with five others at Bien Hoa, the country's largest air base.



An F-5 Returns From a Mission





**ROLLOUT IN SPAIN**—Technicians make final adjustments on the first F-5B to be built in Spain by Construcciones Aeronauticas, S.A. (CASA) under a license agreement with Nor-

throp. CASA is building the F-5 for the Spanish Air Force. The firm has plants in Madrid, Sevilla and Getafe.

## Employee's Son Among New Pilots

Graduation exercises to be held next month at Williams AFB, Arizona, for an Air Force Undergraduate Pilot Training class will



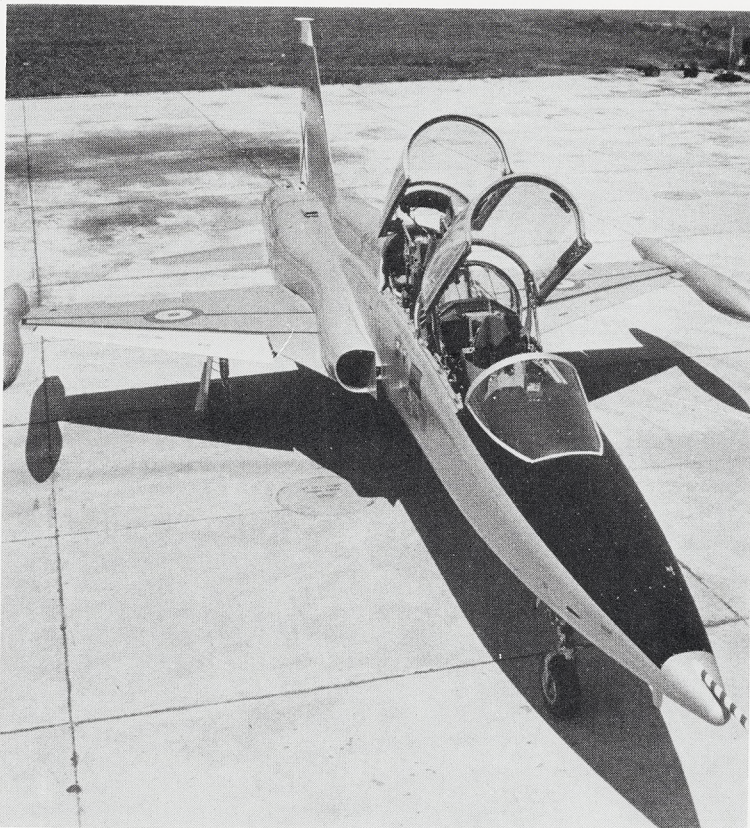
Lt. Heiner

have a special meaning to a Northrop Norair man and his family.

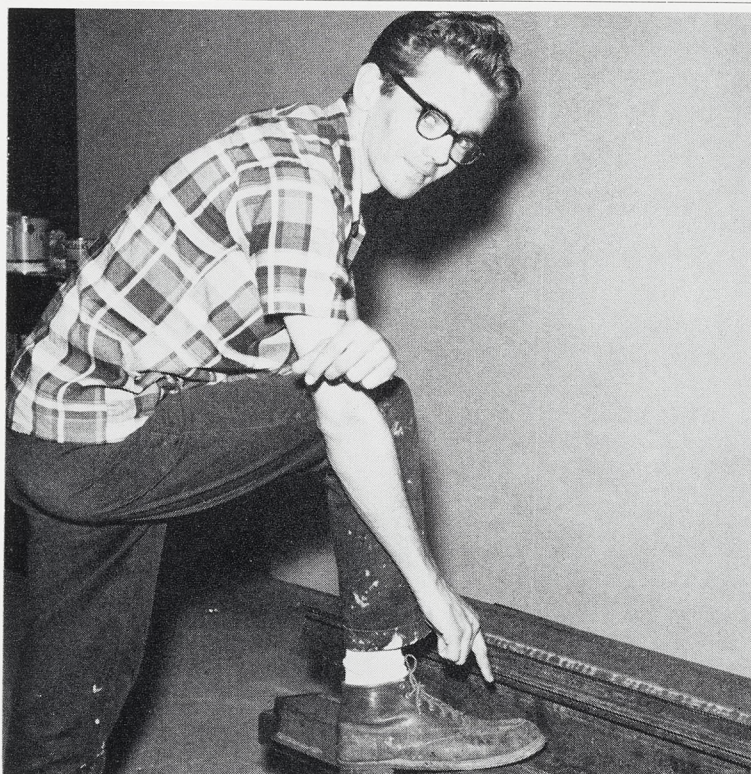
Among the young officers receiving silver pilot's wings will be Second Lieutenant Victor H. Heiner. He is the son of Victor E. Heiner, a foreman at Norair's Santa Fe Facility.

Lieutenant Heiner participated in AFROTC activities while attending UCLA. He reported for pilot's training in June 1967.

His final training phase has included soloing and logging many hours in the Northrop-built T-38 Talon jet trainer.



**FIRST OF SEVENTY**—Shining in the afternoon sunlight, the first of 70 F-5B aircraft to be built by CASA sits in front of a hangar in Madrid, where rollout ceremonies were held on May 11. CASA is building the F-5 under a license agreement with Northrop.



**NO INJURY**—Safety shoes prevented injury to Mike Griesser when 200 pounds of steel angle material toppled off a cart onto his foot. A Norair jig and fixture builder, Mr. Griesser is the latest member of the Golden Shoe Club.

## 'Fiesta' Dance Set

Personnel Activities outlets in the Hawthorne area still offer tickets for the first NRC-sponsored dance of the year. They sell for \$1.50 per person.

Billed a "Fiesta," the dance will be held from 9:30 p.m. to 1:30 a.m. June 15 at the Mayflower Ballroom, Inglewood.



**AIR FORCE'S FAIREST**—Colonel David E. Galas, Northrop AFPR, is surrounded by the ladies on his staff on National Secretaries' Day.

Corsages and lunch with their bosses highlighted this special occasion.



**THE NEW VICE PRESIDENT** of the San Orco District Business and Professional Women is Frances Brown (left) of Anaheim's Product Support group. She was recently installed by Velve Regan, current vice president of the California Federation of Business and Professional Women's Clubs, Inc. Mrs. Brown will serve the district BPW in executive positions for the next three years.

## Automobile Club Begins Regular Service at Anaheim

Services of the Automobile Club of Southern California are now being extended to Nortronics employees at Anaheim on a regular basis, according to Harry Belcher of Employee Services. "We have had such good response to auto club services offered during license renewal

time," said Mr. Belcher, "that we wanted to see if a broadening of this service would be supported year-round."

A representative of the club is present in the Personnel Activities office in Y-1 during lunch periods each Monday, Wednesday and Friday.

Some of the services offered include providing travel and tour information and maps for those planning trips, handling of local traffic citations and changing of registration information on automobile titles.

## ORDAP

(Continued from page 2)

President Thomas V. Jones and all members of the Northrop teams for their contributions and services. In 1965 Mr. Taylor was awarded the German Order of Merit for the work of the ORDAP team under his leadership in the initial phase of the program.

## ORDAP Discussion

The training aspects of Northrop's Operations Research program in Germany were described in a paper presented to a joint meeting of technical societies May 2 by Harold Tombach, associate director of ORDAP/Europe.

Entitled "A Case History of Education for Military Operations Research," the paper was given during a seminar and panel session of the joint meeting of the Operations Research Society of America and The Institute of Management Sciences.

## Employee's Wife Wins Vacation to Portugal, Spain

Frank Ross finds leaving family vacation plans to his wife, Eileen, is a good policy.

Mrs. Ross has the 1968 plans complete, a 15-day visit for two in Portugal and Madeira Island. It begins next month.

Mr. Ross, a Norair senior mechanical design engineer in Plant Engineering, did have his say in the matter. He wants to spend a few free days to fly to Madrid for a visit to CASA where Northrop F-5's are being built for the Spanish Air Force.

Mrs. Ross won the all-expense trip for two in a contest.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale

**Volkswagen**, 1966, 19,000 miles, equipped w/\$800 in extras, \$1,800. 213-677-3471. A  
**Falcon**, 1960, r/h, auto., \$200. 213-672-4450. A  
**Packard**, late model, good tires & brakes, \$40. 213-677-6387. A  
**Station Wagon**, 1967 Ford, 6-pass. Country Sedan, 390 eng., auto. trans., a/c, r/h, \$2,980. 213-324-2992. A  
**Metropolitan**, 1961, \$275. 213-370-5316. A  
**Chevy II**, 1963 S.S., 6-cyl., auto. trans., new brakes, bat., tires, eng., \$1,882. A  
**Pontiac**, 1965 Le Mans, 4-dr. sedan, 8-cyl., auto. trans., r/h, \$1,500. 714-847-4638. A  
**Chevrolet**, 1960, 6-cyl., auto. trans., \$60. 213-671-1660. A  
**Chevrolet**, 1963 Impala sport cpe., V-8, p/s, radio, \$995. 213-328-5339. A  
**Pickup**, 1960 Ford, ½-ton, 8' box, hvy. duty springs & tires, \$500. 213-325-6652. A  
**Corvette**, 1965 Sting Ray, fuel injection, mag whls., many extras, new tires, \$3,100. 213-374-2756. A  
**Mercedes Benz**, 1956 190 SL, \$995. 213-373-1395. A  
**Buick**, 1966 Riviera, air, full power, \$3,375. 213-675-5329. A  
**Thunderbird**, 1963, full power, air, \$1,245. 213-675-7740. A  
**Volvo**, 1963, new tires, r/h, \$795. 213-325-5245. A  
**Volkswagen**, 1964 Squareback 1500 S, '65 eng., sunroof, AM-FM, \$1,250. 213-328-4128. A  
**Pontiac**, 1963 Grand Prix, fully equipped, take over \$67.81 mo. pymts., \$1,450 approx. bal. 213-676-6349. A  
**Corvair**, 1962 Spyder, turbo-charge E.D., 4-spd., new tires & muffler, \$450. 213-320-3048. A  
**Mercury**, 1958 Monterey, 2-dr., stick shift, good tires, \$300. 213-672-9449. A  
**Buick**, 1966 Special, convt. V-8, auto. trans., r/h, \$1,495. 213-675-0777. A  
**Mustang**, 1965 h/top, V-8, auto., r/h, 35,000 miles, \$1,700. 213-472-2031. A  
**Volkswagen**, 1962 2-dr. sedan, new tires, \$850. 213-699-6395. A  
**Volkswagen Camper**, 1966 Westphalia w/pop-up top, \$2,100. 714-842-5837. A  
**Club Wagon**, 1964 Econoline Falcon, auto. 3-spd. trans., r/h, 6 cyl. eng., \$1,450. 213-377-3487. A  
**MG Midget**, 1963, r/h, new paint, rebt. eng., \$875. 213-349-7271, 213-754-4178. A  
**Plymouth**, 1957, V-8, \$175. 213-679-4464. A  
**Dune Buggy**, Volkswagen, standard or shortened wheelbase, fiberglass body, tuned extractor exhaust sys., \$1,650. 213-676-6188. A  
**Chrysler**, 1965 300L, 2-dr., h/top cpe., AM-FM radio, p/s, p/b, p/w, \$2,000. 213-374-0504. A  
**Porsche**, 1966 911, elec. sunroof, AM-FM stereo, \$4,500. 213-438-8331. A  
**Chevrolet**, 1960, convt., 348, 4-spd., new tires, p/b, p/s, \$500. 213-755-6084. A  
**Station Wagon**, 9-pass., 1959 Pontiac, r/h, a/c, new tires, p/b, p/s, Hydromatic, needs work, \$100. Box 1001. A  
**Thunderbird**, 1963, all power, a/c, new tires & paint, \$1,300. 213-860-5452. A  
**Station Wagon**, Falcon, 1965 2-dr., V-8 eng., auto. trans., p/s, r/h, \$1,450. 714-962-4134. A  
**Pickup Truck**, 1960 Chevrolet, ½-ton, w/factory shell, \$800. 213-370-2234. A  
**Ford**, 1964 Galaxie 500, 427 cu. in., 425 h.p., 4-spd., many extras, \$1,000. 213-941-1769. A  
**Ford**, 1966 Econoline, 240 h.p., stick shift, new tires, r/h, \$1,695. 213-671-5294. A  
**Mustang**, 1966, V-8, auto. trans., p/s, r/h, take over \$76.88 mo. pymts., \$2,152.64 bal. 213-722-0668. A  
**Chevelle**, 1964 Malibu, 4-dr., p/s, auto., radio, V-8, 283 cu. in. eng., \$1,250. 213-676-5219. A  
**Karmann Ghia**, 1960 convt., \$425. 213-839-9034. A  
**Ford**, 1959 Galaxie, 4-dr. h/top, \$300. 213-326-3603. A  
**Corvair**, convt., 4-spd., floor shift, \$700. 213-379-7853. A  
**Chevrolet**, 1964 Impala, 4-dr. h/top, fact. air, 327 V-8, auto., p/s, many extras, \$1,495. 213-327-2279. A  
**Oldsmobile**, 1956 2-dr., h/top, \$150. 213-644-6156. A  
**Ford**, 1961, Falcon Ranchero, 6-cyl., auto. trans., \$550. 213-374-5728. A  
**Station Wagon**, 1961 Chevrolet, 6-cyl., stick, \$475. 213-379-2326. A  
**Station Wagon**, 1959 Ford, new trans. & brakes, \$275. Box 1002. A  
**Corvair Monza**, 1963 Spyder, convt., good top, 4-spd., \$500. 213-329-2926. A

Automobiles For Sale

**Station Wagon**, 1956 Chevrolet, 9-pass., p/s, auto. trans., new brakes & tune up, o/sized tires, \$320. 213-376-6415. A  
**Volkswagen**, 1958, new gen. & voltage reg., cartop carrier, \$395. 213-372-4907. A  
**Falcon**, 1963 Sprint h/top, V-8, 4-spd., p/s, r/h, shop manuals, \$900. 213-261-6865. A  
**Volkswagen**, 1958 sedan, gas saver access., needs paint, \$450. 213-644-1952. A  
**Toyota**, 1966 Corona, auto. trans., \$1,500. 213-320-4823. A  
**Camper**, 1965 Volkswagen, awning w/sides, stove, ice box, water tank, \$1,895. 714-962-1805. A  
**Ford**, 1957 2-dr. h/top, \$165. 213-320-3844. A  
**Pickup Truck**, 1956 Chevrolet, 6-cyl., \$250. 213-542-3626. A  
**Dodge**, 1960 Phoenix 500 2-dr., approx. 15,000 miles, r/h, fact. air cond., \$300. 213-663-3622. A  
**Volkswagen**, 1964 sedan, Bendix radio, \$950. 714-525-2026. A  
**Jaguar**, XKE 4.2, 1965 roadster, r/h, wire whls., \$3,400. 213-377-8745. A  
**Pontiac**, 1965 Le Mans, 326 cu. in., p/s, AM-FM radio, 5 new tires, auto. trans., \$1,875. 213-329-1202. A  
**Ford**, 1958 Fairlane, 312 Thunderbird eng., r/h, \$160. 213-835-6492. A  
**MGB**, 1964, Rader wheels, r/h, \$1,350. 213-377-9713. A  
**Volkswagen**, 1966, 13,000 miles, w/s/w, \$1,450. 213-324-8747. A  
**Chevrolet**, 1962 Impala S.S., V-8, 409, 4-spd., w/2 4 blbs., tach., new trans., \$900. 213-834-1592. A  
**Station Wagon**, 1961 Pontiac, fact. air, extras, \$795. 213-783-8271. A

Household Items For Sale

**Washer**, G.E., needs work, \$15. 213-644-2607. A  
**End Table**, Ethan Allen Salem maple, tiered top, louvered doors, \$25. 213-675-5522. B  
**Range**, Frigidaire, 2 ovens, broiler, 220V elec., \$65. 213-644-1362. B  
**Dinette Table**, Early American, 48" dia., 4 chairs, pine, \$75. 213-677-7400. B  
**Sewing Machine**, cabinet model, straight stitch, \$20. 213-374-8358. B  
**Dinette set**, Virtue Bros., 4 chairs, table & ext., \$30. 213-378-2609. B  
**Crib**, chestnut finish, mattress, 6 yr. size, \$15. 213-325-8175. B  
**Occasional Chair**, rose colored freize, green fringe, \$20. 213-755-1925. B  
**Washer**, Kenmore, auto., 500 model, used 2 yrs., \$65. 213-347-4200. B  
**Dryer**, elec., Norge 14, \$30. 213-373-3274. B  
**Chair**, tan Naugahyde, \$25. 213-867-5809. B  
**Deacon's Bench**, antique, \$100, other items, various prices. 213-375-8804. B  
**Sterling**, Heirloom, Damask Rose pattern, 8-7-pc. place settings, serving pcs. & chest, \$700. 714-528-5504. B  
**Refrigerator**, \$35. 213-944-1904. B

Miscellaneous For Sale

**Clothing**, boy's, sizes 10-20, \$50. 213-882-0761. C  
**Porch Railing**, ornamental w/center post, 15', \$75. 213-293-5993. C  
**Airplane**, Cessna 140, 230 s.m.o.h., metal wings, full gyro panel, new paint, disc brakes, \$3,400. 714-532-1510. C  
**Camera**, Yashica SLR f/1.4, \$165. 213-861-4798. C  
**Outboard Motor**, 3 h.p., British Seagull, plus 40 long shaft, \$65. 213-320-3529. C  
**Flash Reflector**, Honeywell Tilt-A-Mite, fan-type, never used, \$6. 805-498-3549. C  
**Movie Projector**, Wollensak 8mm, \$50. 213-662-1817. C  
**Horse**, 8-yr. old gelding, ½ quarter, ½ Arabian, sound, experienced rider only, \$500. 213-644-2717. C  
**Rifle** Telescope, 4-power Bushnel, \$7.50 213-375-7265. C  
**Camera**, AGFA, 35mm f/2.8, fully auto. w/flash & extras, \$25. 213-672-7424. C  
**Exercise Table**, Stauffer, \$300. 213-377-4727. C  
**Wedding Ring Set**, cost \$350; \$200. 213-376-6182. C  
**Ski Boat**, 14' Catamaran, glass covered, plywood hull, 75-A-Merc. eng., 15" whl. trailer, \$750. 213-322-5434. C  
**Accordion**, 120 bass contello, \$200. 213-329-3217. C  
**Autoharp**, case, \$30. 213-323-8797. C  
**Bicycle**, Schwinn Sting Ray, \$25. 213-545-1672. C  
**Sleeping Bag**, dble., sleeps 2 adults, w/air mattress, \$25. 213-378-1863. C  
**Poodle**, French mini-toy, AKC reg., teddy bear marked, male, shots, \$75. 213-754-3665. C  
**Ski Boat**, 12' 6", fiberglass o/wood, 40 h.p. Mercury eng., Heco trailer, \$400. 714-828-8439. C  
**Sloop**, Cal 20, trailer & boat bath, King Harbor slip avail., \$3,600. 213-378-1561. C  
**Mini-Bike**, 3½ h.p., new tires, retractable front, \$120. 213-644-3729. C  
**Wedding Dress**, size 12, New York orig., \$50. 213-644-5935. C  
**Sailboat**, 12', sloop rig, Firefly class, trailer, \$595. 213-377-5862. C  
**Amplifier**, Fender Bassman, \$295. 213-675-7410. C  
**Motor**, Evinrude, 18 h.p., 3 extra props, \$200. 213-371-3620. C

Miscellaneous For Sale

**Tool Box**, Ige. Craftsman, \$25. Box 1003. C  
**Bicycle**, 10-spd. boy's 26" Schwinn, new Derailleur chain & sprocket plate, \$35. 213-345-3195. C  
**Stole**, Homo mink, white, \$150. 213-275-1436. C  
**Utility Trailer**, 6' x 7' x 5½" w/2 sect on removable rack, o/load blocks, \$120. 213-371-9829. C  
**Prom Gown**, mint green crepe, white empire top, sleeveless, size 7 jr. petite, \$18. 213-755-7255. C  
**Stereo**, Emerson, walnut, 100 watt, AM-FM, 6 spkrs., Garrard changer, \$150. 213-675-8068. C  
**Golf Clubs & golf bag**, \$30. 213-323-8213. C  
**Organ**, Conn, electronic, minuet model, walnut Italian provincial spinet, ext. spkrs., lesson books & maintenance manual, \$595. 213-430-1531. C  
**Pups**, scotty, \$100-\$150. 213-645-8405. C  
**Boat**, 19' 1965 Glastron V195, Mercruiser 150, power tilt, sleeps 4, tandem trailer w/power winch, \$3,800. 213-323-6366. C  
**Dirt Bike**, Honda 50, just o/hauled, .275 tires, \$110. 213-675-3254. C  
**Cabin Cruiser**, 1959 Owens, 24', new 220 h.p. Chev. V-8, radio, extras, \$2,600. 213-375-7148. C  
**Air Conditioner**, for auto, Mark IV, \$200. 213-324-1237. C  
**House**, 2 baths, 4-bdrm., in Garden Grove, 2-car gar., lge. fenced-in yard, low down, \$21,500. 213-676-4203, 213-581-5208. C  
**House**, 3-bdrm., bltins, cpts., dps., patio, newly painted, \$25,950. 213-676-3912. C  
**Golf Clubs**, matched set MacGregor, 2-9 irons, 1, 2 & 3 woods, bag, \$40. 213-476-1842. C  
**House**, 2-bdrm., h/wood floors, lge. fenced yard, low down, 15 mins. from Hawthorne, \$18,500. 213-371-4297. C  
**Boat Trailer**, tubular steel, for sailboats up to 2 tons, \$200. 213-831-9545. C  
**Pup**, miniature poodle, silver, registered, 7 wks. old, female, \$50. 213-866-8977. C  
**Engagement & Wedding Rings**, size 5, never worn, \$50. 213-835-8809. C  
**Pups**, Irish wolfhound, reg. champ. stock, \$400. 213-379-3487. C  
**Townhouse**, cpts., dps., bltins, 2½ baths, 4-bdrm., family rm., screened-in lanai & patio, air cond., pool, \$24,950. 714-635-1686. C  
**Boat**, 1963 14' Glasspar, 35 h.p. Merc. A, cover & Sun Valley trailer, \$1,300. 213-464-1084. C  
**Crystals**, selected 8 meg., for use w/6 meter & 2 meter transmitters, 35¢ ea. 213-630-4188. C  
**K-Cello**, complete w/cloth cover & bow, \$200. 213-479-1432. C  
**Pup**, Labrador retriever, female, AKC, 16 mos. old, trained, shots, \$250. 213-675-3557. C  
**Scuba Diving Equipment**, tanks, Aqua Master reg., full dress wet suit, other access., \$150. 213-325-5875. C  
**Preamplifier**, Dyna PAS-3X, factory wired, used approx. 1 yr., \$70. 213-672-5534. C  
**Honda**, 1965 model, CB 160, 9,000 miles, \$275. 213-645-9367. C  
**Spinning Reel**, Mitchell Garcia #408, ultralight, 2 spools, 4 & 6 lb. test line, & spinning rod, \$35. 213-675-4752. C  
**Lot**, 25'x100', Big Bear City, level, trees, all utilities avail., \$1,450. 213-598-3072. C  
**Power Mower**, Sears, recently tuned & sharpened, \$25. 213-833-2584. C  
**Boat**, 13' Wizard, fiberglass runabout, no motor, tilt-top trailer, \$260. 213-378-3055. C  
**Home**, 4-bdrm., 2 baths, dble. gar., lge. lot, just refinished, West Garden Grove, \$23,500. 213-596-4215, 213-430-0441. C  
**House**, 4-bdrm., 1¾ baths, elec. kitchen, insulated blockwall, sprinklers, encl. patio, bltin b-b-que, fireplace, \$28,000. 213-320-6975. C  
**Camera**, Polaroid 103 color pack, flash, case, \$80. 714-897-8447. C  
**Pups**, AKC reg. Kerry blue terriers, 5 females, 2 males, \$100 & up. 714-879-7276. C  
**Air Compressor**, portable, ¾ h.p., 2-cyl., 12 gal. tank & auto. cutoff, 3 mos. old, \$150. 213-371-2531. C  
**Acresage**, 5 acres, near Willow Springs, \$35 dn., \$35 mo., \$3,500. 213-378-1026. C  
**Suit**, size 7, blue, 3-pc., Swiss-made, \$30. 213-870-8326. C  
**Ski Boat**, 16', Esquire, all glass, 100 h.p. Merc. powered, trailer, \$2,500. Box 1004. C  
**Honda**, 305, \$375. 213-329-1657. C  
**Tires**, 5 tubeless, 7-17.5, 6-ply mounted on 6 lug drop center rims, \$50. 213-675-0521. C  
**Motorcycle Carrier**, 2-wheel trailer set up for 2 motorcycles, \$125. 213-867-1476. C  
**Stereo**, portable, 4-spd., w/detachable speakers, diamond stylus, \$65. 213-756-3472. C  
**Home**, 2-bdrm., 1¾ baths, cpts., dps., lge. R-2 lot, \$22,250. 213-671-8672. C  
**Cello**, handmade in France, ¾ size, fine tuners, bow, case, \$180. 805-495-0507. C  
**Cabin Cruiser**, 16', sleeps 2, Evinrude Starflite, 50 h.p., ski hitches, fully equipped, American trailer, \$750. 213-372-1445. C  
**Home**, 4-bdrm., 1¾ baths, family rm., cpts., dps., bltins, new paint, walnut panelling, \$23,900. 714-737-9520. C  
**Drafting Machine**, Bruning, very little use, \$90. 213-327-1949. C  
**Racing Engine**, Chevrolet, 315 cu. in., other misc. parts, \$165 or sell separately. 213-639-6653. C

Miscellaneous For Sale

**Intake Manifold** & carb. from 1965 Pontiac 362 cu. in. eng., \$15. 213-644-6061. C  
**Power Mower**, 20" Winston, \$20. 213-323-4695. C  
**Organ**, Hammond A-100, 6 free lessons inc., \$1,800. 213-430-5543. C  
**Apt**, 5-unit, 1 block to Norair Hawthorne, 2 3-bdrm., 2 2-bdrm., 1 single, \$72,350. 714-837-8257. C  
**Lot**, for house & sep. boat dock, Salton Sea, roads & util. in, near yacht club, \$7,100. 714-535-1694. C  
**Piano**, Starr console w/bench, mahogany, \$300. 213-323-1698. C  
**Room Humidifier**, port., motor driven atomizer, 1½ gal. capacity, 120 V a.c., \$14. 213-693-4117. C  
**Piano**, small upright, full keyboard, \$200. 213-675-7729. C  
**Ping Pong Table**, ¾" plywood top, folding legs, net & paddles, \$15. 213-372-2759. C  
**Camera**, Yashica Mat 127, twin lens, bltin light meter, case, \$35. 213-676-3050. C  
**Honda**, 1966, 305 cc Super Hawk, many extras, \$450. 213-372-0313. C  
**Catamaran**, 13' fiberglass Cal Cat, \$600. 213-379-2331. C  
**Surfboard**, Hobie, 9½', wood, \$35. Box 1005. C

Wanted to Buy

**Trailer Hitch**, E-Z lift. 213-371-6758. D  
**Radio Control Units** for model airplane hobby. 213-370-7092. D  
**Outboard Motors**, 2, 5 to 10 h.p., & 14 to 20 h.p. w/elec. start, steering controls. 213-830-0702. D  
**Station Wagon**, 9-pass., 1964 or '65, preferably Plymouth, Ford or Chev. in excellent condition. 213-375-6463. D  
**Dryer**, gas, in good condition. 213-370-7749. D  
**Family Tent**, preferably umbrella type. 213-320-4286. D  
**Tickets**, 6, for Disneyland Northrop Night, May 25. 213-676-9989. D  
**Lawn Edger**, power, & mower. 213-679-4863. D  
**Camper Shell**, cab-height for 8' wide bed. Box 1006. D

Free (To Be Given Away)

**Kittens**, multi-colored, male, trained, shots. 213-328-0460. F  
**Rentals Offered**  
**Apt**, 1-bdrm., furn., sub. parking, pool, bltins, cpts., dps., pvt. deck, \$150 mo. 213-679-1680, 213-670-6084. G  
**Cabin**, Green Valley, Calif., \$25 w/end; \$45 wk. 213-324-0649. G  
**Cabin**, A-Frame, furn., sleeps 5, 40 miles west of Colorado Springs, \$70 wk. 213-894-1937. G  
**Chalet**, Lake Arrowhead, furn., 3-bdrm., 2 baths, North Shore, lake view, \$600 mo.; \$175 wk. 213-377-5936. G  
**House**, 3-bdrm., 3 blks. to beach, cpts., dps., bltins, refrig., wash-dryer, pvt. patio, \$230 mo. 213-378-0187. G  
**Cabins**, Lake Gregory & Crestline, sleep 6, make reservations for June-Sept., \$25 w/ends; \$60 wk. 213-391-2040. G  
**Cottage**, Ocean Bch., San Diego, make reservations now, \$65 wk. 714-826-2007. G  
**Bachelor Apt**, furn., utilities, few blocks from Northrop, \$75. 213-674-5503. G  
**Cabin**, Lake Arrowhead, north shore, modern, 200 ft. from lake, \$100 wk. 213-375-2255. G  
**Home**, lake front, Bass Lake, pvt. boat dock & beach, main unit, sleeps 8, \$225 wk.; small unit, sleeps 5, \$115 wk. Box 1007. G  
**Apt**, in Catalina, \$30 w/end; \$65 wk. 213-323-0526. G

Rentals Wanted

**House**, 2-bdrm., unfurn., lge. fenced backyard desirable, in Torrance-Lomita area, up to \$140 mo. 213-320-2071. H  
**House**, 2-bdrm., Norair Hawthorne area, cpts., small fenced yd., approx. \$100 mo. or less, prefer utilities paid, unfurn. Box 1008. H  
**Camper**, Volkswagen, from approx. mid-June to mid-July. 213-671-1625. H  
**Apt** or House, furn., 1-bdrm., no pets or children, prefer gar., Manhattan Bch. area. 213-532-4182. H

Child Care

**Child Care** offered, my home, reasonable rates, near Redondo Bch. Blvd. & Figueroa. 213-323-1429. I

Personals

**Lady**, would like to share home & household expenses w/other lady, preferably retiree. 213-676-4537. L  
**The** many floral contributions & expressions of sympathy shown from the co-workers of Edward M. Ross has been greatly appreciated, in the recent passing of our husband & father. MRS. MARGARET ROSS & FAMILY. L  
**I** wish to express my sincere thanks to my many friends at Northrop for remembering me during my recent stay in the hospital. Your kindness, cards, gifts, visits, were deeply appreciated. ADA McMILLEN. L  
**Lady** passenger wanted for 1-way trip to Grand Junction, Colo., leaving June 15 p.m. or June 16 a.m., share fuel & lodging expense. 714-642-2616, 714-671-1254. L  
**I** want to sincerely thank all Northrop personnel for their heartfelt thoughts & concern before & during my recent bereavement. All funds received on behalf of my late wife, Mrs. Claire Blanchette, will be donated to the American Cancer Foundation. ALBERT BLANCHETTE. L

Rides and Riders

Rides Wanted

**7 a.m. — 3:42 p.m.**  
**Del Amo & Long Beach Blvd.**, Long Beach. Jean M. Wigley, Norair ext. 2605, 213-423-1711. L  
**Crenshaw & El Segundo Blvd.**, Torrance. R. Lopez, Mariposa ext. 4044. L  
**Pacific Coast Hwy. & Narbone**, Lomita. Patti Palmer, Norair ext. 1628, 213-378-7651. L

Rides Offered

**7 a.m. — 3:42 p.m.**  
**Pacific Coast Hwy. & Narbone**, Lomita. Patti Palmer, Norair ext. 1628, 213-378-7651. L

Personals

**Fly** 1 to 5 people to Las Vegas, San Francisco, Mexico, anytime. 213-322-4221, 213-856-2079. L  
**We** wish to express our appreciation for the kind thoughts & deeds extended to us at the time of the death of our husband & father, John Bourke. CAROL & LYNDA BOURKE. L

For Sale or Trade

**Binoculars**, Nikon, 7x35, used once, \$65 or trade for movie screen, camera tripod and/or stereo headphones. 213-376-4473. M  
**Acresage**, Lake Los Angeles, improved acre, \$5,290 or trade equity for Volkswagen camper. 805-526-7767. M  
**Home**, stucco, in Inglewood, 3-bdrm., 2 baths, den, cpts., h/wood flrs., 2-car det. gar., patio, b/wall fence, \$9,000 equity, \$26,000 or trade for land or home in Malibu Canyon or Thousand Oaks area. 213-671-8401. M

Toastmistresses, Square Dancers Share Program

Northrop's Smoothsayers Toastmistress Club will take part in the Golden Desert Regional Conference of International Toastmistress Club over the coming weekend at the Statler Hilton Hotel, Los Angeles.

Lois Paris, president, will be an official delegate and a hostess. Shirley Wilson is an alternate delegate. Vice President Marguerite Dougherty will be a workshop speaker.

Members of the NRC Square Jets will present an exhibition of square dancing.

Dancers scheduled to participate are Clarissa Keinonen, Floyd Rowe, Dick Heise, Evelyn Heise, Dick Rinehart, Walt Black, Thelma Black, Henry Mitsch, Lucile Mitsch, Jean Bruegestrass, Bill Bruegestrass, Vernon Marshall, Marjorie Goodrich, Jim Wildes, Janet Jonson and Lois Paris.

Carl Willison will call.

Trap, Skeet Club Schedules Shoot

Five classes of winners in the April special Trap and Skeet Club shoot have been announced by Mark Burnett, Norair Trap and Skeet Club commissioner.

Winners and their scores in their respective classes are: Class AA, Richard Cade, 80; Class A, Norm Loven, 81; Class B, Don Brennan, 76; Class C, Harmi Tanouya, 64; and Class D, Bob Young, 55.

Winners of the May shoot held over the past weekend included the following class champions: Dick Greetan, Class AA; Tee Doon, Class A; Ev Bateson, Class B; A. H. Harrington, Class C; and Bob Young, Class D. Taking part were 53 competitors who fired 50 rounds of skeet and 50 rounds of trap.

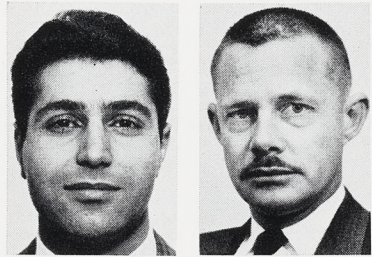
The shoot of June 9 will be at the Watson Range on Alameda Street, south of the San Diego Freeway. It is scheduled to begin at 10 a.m. with signup at 9:30 a.m.



## Iranian Trip a 'Homecoming' For Ventura's Fred Lavi

Fred Lavi's plans for a vacation trip next year to his native Iran have been changed by his latest assignment. Now he'll be heading there on business after a six-year absence.

Mr. Lavi, a Northrop Ventura technical representative in Field



Mr. Lavi

Mr. Bean

Services and Training, will be going to Iran next month with Jack Bean, a Ventura technical representative for 13 years.

Both will be working with the Imperial Iranian Air Force under terms of a contract negotiated recently between Ventura and the Iranian government.

Mr. Bean and Mr. Lavi will be stationed at Doshen Tappa Air Base in Tehran, the nation's capital, training Iranian personnel in the use of the KD2R-5 target drone and its support equipment.

Mr. Lavi left Iran to attend college in the United States. He studied at UCLA, El Camino College and California State College at Los Angeles, graduating from there with a degree in electrical engineering. He began

working at Ventura in February, and this will be his first field assignment.

Mr. Bean, on the other hand, has traveled extensively for Northrop, including recent trips to Brazil and Canada.

For Mr. Lavi, the trip will be quite a homecoming.

"I have about 200 relatives in and near Tehran," he said, "and they seemed quite excited when I wrote and told them I was coming." The immediate family includes Mr. Lavi's parents, three sisters, one brother and a grandmother.

During their 18-week stay in Iran, Mr. Lavi and Mr. Bean will train the Iranian Air Force personnel in the theory and application of target aircraft. Then they'll present the field training portion of the program.

"The course is designed to acquaint those persons who don't speak English with the technical information necessary to operate the KD2R-5," Mr. Bean said. "Usually, we find someone in an allied country who speaks English well enough to interpret for us. Now, of course, Fred will be able to handle that."

Mr. Bean and Mr. Lavi will leave Los Angeles on June 4, and will stop in London and Beirut, en route to Tehran.

"Iran is just about halfway around the world," Mr. Bean said. "You can't go any farther without being on your way back."

## Thirty Complete Classes

Thirty Northrop Ventura employees have completed two courses sponsored by the Professional Development and Training group.

Fifteen each completed the second course in Supervision I, and the second Motivation Through Communications Seminar.

Completing the supervision course were George W. Semones, Ivan W. Bridges, Harvey C. Berry, Paul D. Stewart, Lee R. Brad-

ley, Russell A. Opfer, Curtis E. Verge, Robert V. Lashbrook, James K. Donnell, Roy A. Switzer, James L. Bell, Ronald H. Waters, Leonard Estes, Mervin M. Cable and John Lenarsic.

Completing the Motivation seminar were Ed Barker, Bob Hutton, John Hart, John Evans, Ralph Friesen, Les Albright, Bob Pemberton, Rex Fairless, Percy Megginson, Andy Tyszkiewicz, Bernie Swift, Phil Chase, Rollin Lemm, Bob Provart and Darrell Welch.

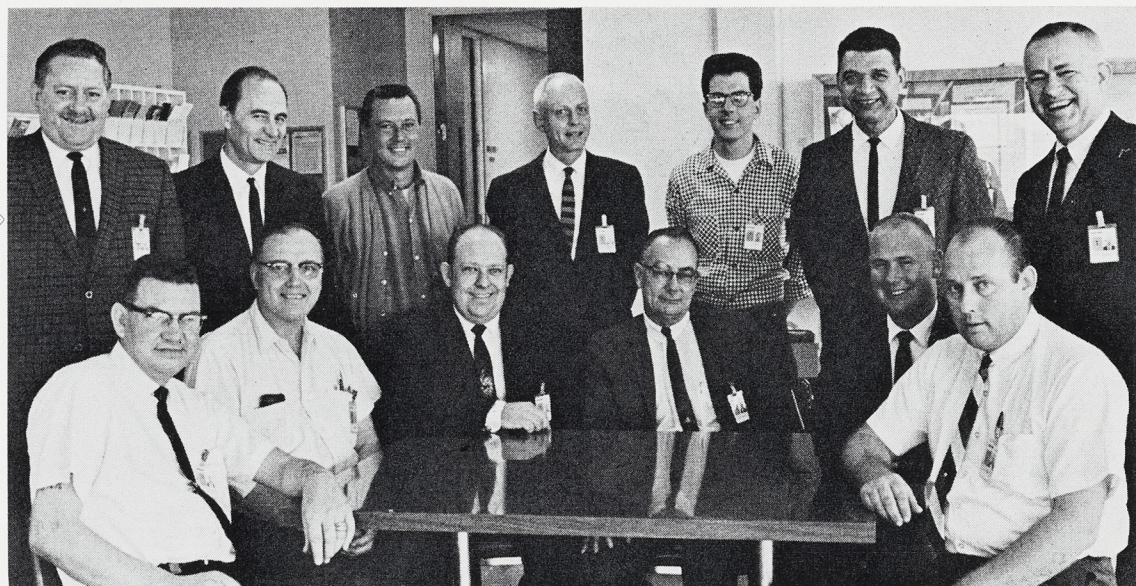
## A STUDY IN COMMUNICATIONS...



**MOTIVATION THROUGH COMMUNICATIONS**—Les Albright (at podium) talks with other Northrop Ventura employees during a recent session of the Motivation Through Communications seminar, which took place in New-

bury Park. It was the second seminar on that topic to be held for Ventura employees. Fifteen completed the seminar, which was led by Consultant Jim Delaney.

## ...AND IN SUPERVISION



**SUPERVISION I**—Graduates of the Supervision I course smile for the camera, along with C. G. Borst (right), administrator of Profes-

sional Development and Training. Fifteen employees completed the course, which began in March and continued into this month.



**THE REAL A. F. BARTZ** — Alfred F. Bartz (left) receives a handshake and a 25-year pin from Welko Gasich, vice president and Ventura general manager. Mr. Bartz, foreman in Sheet

Metal, celebrated his 25th anniversary with Northrop on May 9. A photograph of H. G. Bartz was inadvertently used in a May 8 Northrop News story on Alfred Bartz.

## Supervisory Management Course Scheduled to Start

"Basic Principles of Supervisory Management," an eight-week course prepared by the American Management Association, will begin next week for 52 members of Northrop Ventura Engineering department management.

The conference was selected for presentation by George C. Grogan, Northrop Ventura vice president and manager of the Engineering department.

"We hope to stimulate thinking in terms of better management," Mr. Grogan said, "and present the principles of basic supervisory management in a logical manner, so these principles can be applied to everyday situations on the job."

Those attending the seminar will be divided into three groups. Mr. Grogan said. Group 1 will meet for the first time next Monday. Group 2 will meet on Tuesday, and Group 3 is scheduled for Wednesday. All sessions will be from 4 to 6 p.m. in the Terrace Room of the Los Robles Inn in Thousand Oaks.

After the first week, Group 1 will meet on Tuesday, Group 2

on Wednesday, and Group 3 on Thursday.

Conference leaders will be L. J. (Doug) Sessions, supervisor of Reproduction and Release, and A. Z. (Ed) Frangos, supervisor of Thermodynamics. Both were trained by the American Management Association so they in turn could lead the seminar.

"The course is especially designed for in-plant application," Mr. Sessions said. "We plan to encourage group participation and a free exchange of ideas. At the same time, we are studying the possibility of following this course with a more sophisticated one, called 'Developing Supervisory Leadership Skills.'"

### ADMIRAL LACY

(Continued from page 1)

uty director of Special Projects, he worked with Northrop Nortronics on the Polaris Program and Deep Submergence Systems Program.

Before coming to Ventura last week, he was taken on a tour of Nortronics Palos Verdes.



# NORTHROP NEWS

NORTHROP VENTURA

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IN THE PARALAB—Opal Johnson, of the Northrop Ventura Parolab, inspects an intermediate-scale Parawing being built for testing at El Centro. The test program is scheduled to

begin next month, following completion of tests on a smaller Parawing. The Parawing shown here will have a maximum payload capacity of 6,000 pounds.

## July Tests Scheduled On Larger Parawing

### Small-Scale Version Successful In Testing at El Centro Facility

Flight testing is scheduled to begin next month on a new prototype of Northrop Ventura's Parawing—a model with a wingspan as large as that of a B-47 bomber, and capable of soft-landing a 6,000-pound payload.

Since March, a small-scale Parawing has been undergoing testing at the El Centro Naval Test Facility. All tests have been successful, according to Carey Buhler, Systems Integration project engineer.

The small-scale Parawing has a keel length of 24 feet in the single-keel version; 22.7 feet in the twin-keel model.

The new prototype, which is nearing completion in the Ventura Parolab, will have a single-keel version keel length of 76 feet. The twin-keel version will have a keel length of 72 feet. The wingspan will be 107 feet (single keel) and 110 feet (twin keel), as great as that of a B-47.

"We'll probably begin aerial drop testing in late July," Mr. Buhler said, "once we have tested the new version in trial packing."

Trial packing includes packing and unpacking the Parawing on a table, to determine if it will unfold in the proper sequence during an actual test.

The intermediate Parawing, like the smaller version, will be dropped from either a C-130 or a B-66. The intermediate model will be able to land payloads as great as 6,000 pounds. The smaller model has a maximum payload capacity of 600 pounds.

The intermediate Parawing will be dropped from the test plane at altitudes ranging from 6,000 to 23,000 feet.

Northrop Ventura is building and testing Parawings for the National Aeronautics and Space Administration's Langley Research Center, to determine their feasibility in future manned spacecraft programs. Present plans call

for the development of Parawings which will be able to support payloads of up to 18,000 pounds.

John H. Moeller is chief project engineer on the Parawing, reporting to George Grogan, Northrop Ventura vice president and manager of Engineering.

## Navy Awards Flight Contract For MQM-74A

A contract for demonstration flights of the newly designed MQM-74A high performance target was signed May 22 by the Naval Missile Center and Northrop Ventura, manufacturer of the target.

This is the first time the Naval Missile Center at Point Mugu has negotiated a target flight demonstration contract. Usually contracts of this nature are handled at the Washington level.

The MQM-74A is a turbojet-powered, winged drone which is designed to replace the MQM-36A drone presently used by the U.S. Navy.

It is being developed and produced by Northrop Corporation to provide realistic proficiency training for anti-aircraft gunnery and missile crews.

The drone has been in the design and test phases at Northrop's Ventura Division for more than a year. The unmanned target drone has a new 38-pound turbojet engine developed by Williams Research Corporation.

## RETIREMENT NEAR

### Ray Bourland—Six Months to 26 Years

When Ray Bourland joined the old Radioplane Company (now Northrop Ventura) as a welder in 1942, he planned to stay for about six months.



Mr. Bourland

"I had just planned to get some welding experience and then go on to a larger company," Mr. Bourland said recently.

"But after a few months, I didn't want to leave. It was such a nice place to work, and management had such a 'down-to-earth' attitude that I decided to

stay."

At the time Mr. Bourland began working, the firm had only about 75 employees, scattered among the Engineering, Assembly, Administration, Finance and Personnel departments. Today, Northrop Ventura has more than 1,800 employees.

Mr. Bourland moved from his native Oklahoma to California with his parents in 1931. He joined Radioplane on September 8, 1942, as a welder on the OQ2A, the company's first production target drone.

After a year, he became a leadman in welding. From that, he advanced through ratings of production foreman, general foreman, assistant works manager, works manager and director of production manufacturing.

Finally, he became superinten-

dent of manufacturing, a position he held for several years.

His wife, Margaret, is a welder at Ventura. The couple's son, Ray B. Bourland, is a machine tool rebuilder. A daughter, Virginia Thomas, is married and lives in Las Vegas.

The couple met at work in 1942, and were married a year later. They live in Thousand Oaks.

Mr. Bourland plans to divide his time upon retirement among golf, travel, gardening and lodge work. He is a member of both the Van Nuys Lodge of the Masons, and the Al Malaikah Temple of the Shriners.

Visits to the east coast and the Caribbean have already been scheduled.

## SUGGESTION AWARDS

### Employees' Ideas Pay Off

Nine Northrop Ventura employees received award checks for their ideas which were submitted to the Suggestion Award Committee.

The presentation ceremony on May 17 was held in the office of W. F. Sternadel, Ventura vice president and manager of Finance. Mr. Sternadel is chairman of the Suggestion Award Committee.

Employees receiving checks at that time were:

Roma Nutter, plastics laminator; Lee Bradley, assembler; William Cope, inspector; Dorothy M. Clouse, assembler; A. R. Gale, assembler; M. C. Silos, senior plastics laminator; George Mertz, inspector; G. D. Williams, inspector; and W. P. Spencer, inspection supervisor.

Other recent award winners were:

W. R. Ratcliffe, senior plastics laminator; Marcus McHenry, jr., assembler; and T. P. Lytle, assembler.

On May 27, Glen Estes, general foreman of Production Test and Electronics Assembly, received an award check for his suggestion. The award was presented in the office of W. W. Kearney, director of Production.

"We want to stimulate increased participation in the Suggestion Award Plan on the part of all eligible employees," Mr. Sternadel said.

"We hope we can accomplish this by revising our procedures and policy, and awarding checks for successful ideas within a month of the time they are suggested."



SUGGESTION WINNERS—Nine of 12 Northrop Ventura employees to receive checks from the Suggestion Award Committee pose for a picture in the office of W. F. Sternadel, chairman of the Suggestion Award Committee. Seated are (from left) G. D. Williams, A. R. Gale,

Dorothy Clouse, Mario Silos and Roma Nutter. Standing are (from left) W. P. Spencer, Mr. Sternadel, William Cope, Lee Bradley, George Mertz, Ray Bourland and Walter Kniffen. Mr. Bourland and Mr. Kniffen are members of the Suggestion Award Committee.



# Employees' Sons, Daughters Receive Merit Scholarships

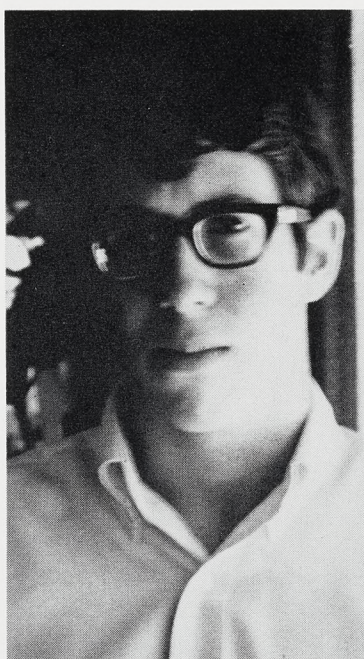


*DUNCAN AGNEW, who plans to attend California Institute of Technology, receives his Northrop Merit Scholarship certificate from Roy P. Jackson, vice president and Norair as-*

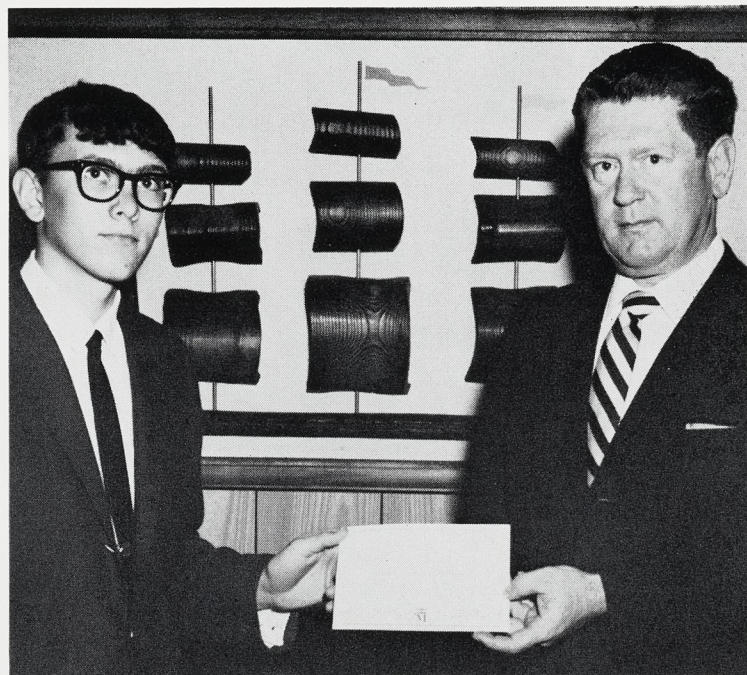
*sistant general manager. At left are Mr. and Mrs. George Agnew. An older brother, Carson Agnew, was a 1966 Merit Scholarship recipient.*



*ROBERT PARKER, who will graduate this month from South High School, Torrance, holds a certificate he received from Frederick Stevens (left), vice president and Nortronics general manager. At right is Dr. William L. Parker of Nortronics Palos Verdes. Robert plans to attend the University of California at Santa Barbara.*



*JIM KORNEILL, a senior at The Thacher School in Ojai, is one of two Northrop Ventura recipients. His father is Hal Kornell. Jim, who has participated in athletics, drama, debate and other activities, will attend the University of California at Santa Barbara.*



*GARY BELFORD, son of K. R. Belford, a Page Communications staff engineer, receives his certificate from Joseph A. Waldschmitt, Page president. Gary will major in electrical engineering at Carnegie Mellon in Pittsburgh. His father has been with Page for 15 years.*



*NANCY EWING, daughter of Paul Ewing of Northrop Ventura, is presented her certificate by Welko E. Gasich, vice president and Ventura general manager. At left is Mrs. Ewing. Miss Ewing plans to attend Occidental College in Los Angeles, where she will major in foreign languages.*



*MICHAEL STAMP, son of Howard Stamp (right) of Norair, receives his scholarship certificate from Roy P. Jackson, vice president and Norair assistant general manager. He plans to attend Massachusetts Institute of Technology. He attended Reseda High.*



*GERALDINE FITZPATRICK, daughter of Mr. and Mrs. Emmett Fitzpatrick, is presented a scholarship certificate by Roy P. Jackson, vice president and Norair assistant general manager. She will enroll at California State College at Fullerton.*



*THOMAS COATES, who will attend California Institute of Technology, receives a scholarship certificate from Roy P. Jackson, vice president and Norair assistant general manager. He is the son of Mr. and Mrs. Thomas L. Coates.*





**HOW IT IS MADE**—Stan Peterson (left) and John Oliver, Northrop's administrator of Product Licensing, explain to two manufacturers the use of Northrop-developed material for making

dies for stretch forming operations. Northrop annually mans booth at Los Angeles Product Licensing Opportunity day to offer inventions and methods to would-be producers.

## IT'S A FACT AT NORTHROP

A striking example of Northrop's worldwide operations in the communications field is provided by the distribution achieved by The Hallicrafters Company, Northrop's Chicago-based subsidiary, for its Village Radio (International Communications) systems.

Dozens of nations are reaping the benefits of modern communications through use of Hallicrafters Village Radio equipment.

As an indication of Northrop's worldwide scope of operations, here is a list of countries which use the Hallicrafters Village Radio systems:

Middle East — Iran, Turkey, Jordan and Israel.

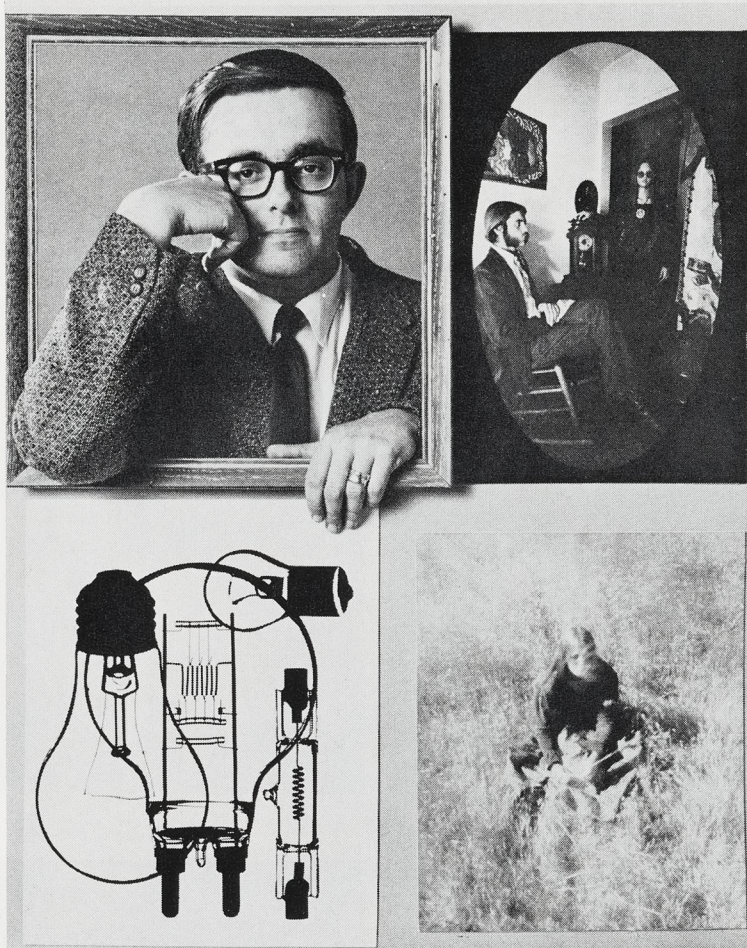
Southeast Asia — Vietnam, Thailand, Indonesia, Pakistan, Burma, Korea, Laos, and Nepal.

Pacific area—Taiwan and The Philippine Islands.

Caribbean—Jamaica.

Africa—Tunisia, Chad, Ivory Coast, Rwanda, Ethiopia, Somalia, Congo, Central African Republic, Upper Volta, Niger, Dahomey, Burundi, Liberia and Nigeria.

South and Central America — Guyana, Chile, Peru, Brazil, Guatemala, Colombia, Ecuador, Uruguay, Bolivia, Panama, Honduras, Costa Rica and El Salvador.



**WINNING TECHNIQUE**—Jim Crowley (upper left), a Northrop Ventura photographer, won a \$100 prize last month with the photo in the upper right. The picture at lower right won him \$50. Both prizes were awarded in the annual Photography West competition. The pictures were taken utilizing the "pinhole" technique, which involves the use of a small hole, instead of a lens.

## Northrop To Participate In Training of Unemployed

Northrop Corporation has been selected by the U.S. Labor Department's Manpower Administration to assist in the schooling of the hard core unemployed for industry jobs.

The program, for people in the Venice area, will begin in September.

It will be administered by L. H. Walton, Norair chief of Personnel Development and Training.

The program, Mr. Walton said, calls for the recruiting of 700 men and women from the Venice area for remedial education (reading, writing, arithmetic) and on-the-job instruction.

The recruits are expected to reach a level which will qualify them for assignment in Northrop's aircraft assembly facility.

Los Angeles is one of five cities participating in the nationwide program, designated as MA-2 by the Manpower Administration. The other cities are Chicago, Boston, Washington, D.C. and San Antonio.

Mr. Walton explained that MA-2 is a follow-on from MA-1, a similar undertaking previously carried out by private agencies, in which the trainee was reimbursed through a government

(See **TRAINING**, page 5)

## Patenting, Licensing Groups Aid Employees

### Careful Evaluation, Analysis Given To Every Invention Submitted for Study

Northrop Corporation's creative muscle—advanced technology—relies on imaginative personnel who design and develop products which make possible the company's diversified operations.

Beyond this mainstream of business there often occur opportunities for exploiting byproducts with market value of their own. Some result from extensive research and development, others from individual initiative.

Since Northrop encourages employees to create new and useful ideas, it provides special means for sharing profits that may result from such personal initiative.

Employee suggestion programs are best known among these.

Northrop's Patent Award Plan offers another form of reward. Product Licensing, still another.

Administered by Willard Graham and John Oliver, respectively, these closely related, but separate, Corporate functions serve all Northrop divisions and subsidiaries.

In addition to serving Northrop's interest, the two organizations combine to offer highly specialized assistance to individual employees.

For example, an employee has an invention he feels has merit and submits it for consideration.

Experts evaluate his invention to ascertain its practical application, its possible patent potential, its possible value to Northrop, its merit as a product for an outside firm.

If this analysis warrants a patent application, the inventor receives \$50 when it is filed; another \$50, if it is granted.

He also becomes eligible to share in all gross receipts Northrop may realize from licensing or sale of his invention. This amounts to 20 per cent of the first \$25,000; 10 per cent of the next \$75,000; and 5 per cent of all returns in excess of \$100,000.

Mr. Graham reports his Patent personnel study an average of 200 items annually. This leads to seeking patents on an average of 35 items.

"We are always in the market for inventions," Mr. Graham said. "Our office in the Hawthorne complex or Patent representatives at each major facility are available to discuss a potential patentable invention at any time."

Mr. Oliver reports his Product Licensing staff has reviewed more than 1,500 individual licensing

prospects over the past 15 years and has placed some 300 of these for manufacture outside Northrop.

"This ratio is high when compared to national averages," Mr. Oliver said. "It speaks highly of the ingenuity of those creating the products."

Examples of successfully marketed products include the NOR-SIGHT aiming device now in use on aircraft and spacecraft; DY-CHEK, a chemical dye penetrant type of inspection; the Heliarc method of welding; a quick disconnect device for externally hung aircraft items; bonding techniques, many plastic developments and others.

Personal contacts account for most placements of products for manufacture in outside firms. Product Licensing works closely with Northrop Purchasing organizations and the vendors who supply materials and components to Northrop facilities. In addition, the organization has an extensive list of companies that specialize in new products.

Northrop Corporation currently has more than 100 domestic and foreign license agreements in effect, Mr. Oliver reports.

## Discounts Available For 'Oppenheimer'

Discount tickets for four performances of "In the Manner of J. Robert Oppenheimer" at the Mark Taper Forum, Los Angeles Music Center, all still available throughout Northrop facilities.

The tickets are for June 16, 23 and 30 and July 7 at the 7:30 p.m. performance. Regular \$6.30 seats are available through NRC for \$3.50 each.

## 'Potluck' Dinner Set

Northrop's Wanderers will feature a "potluck" dinner when they gather at 7 p.m. tonight at the Hawthorne Memorial Park, Hawthorne.

Following dinner in the picnic area, a short business session will be held.

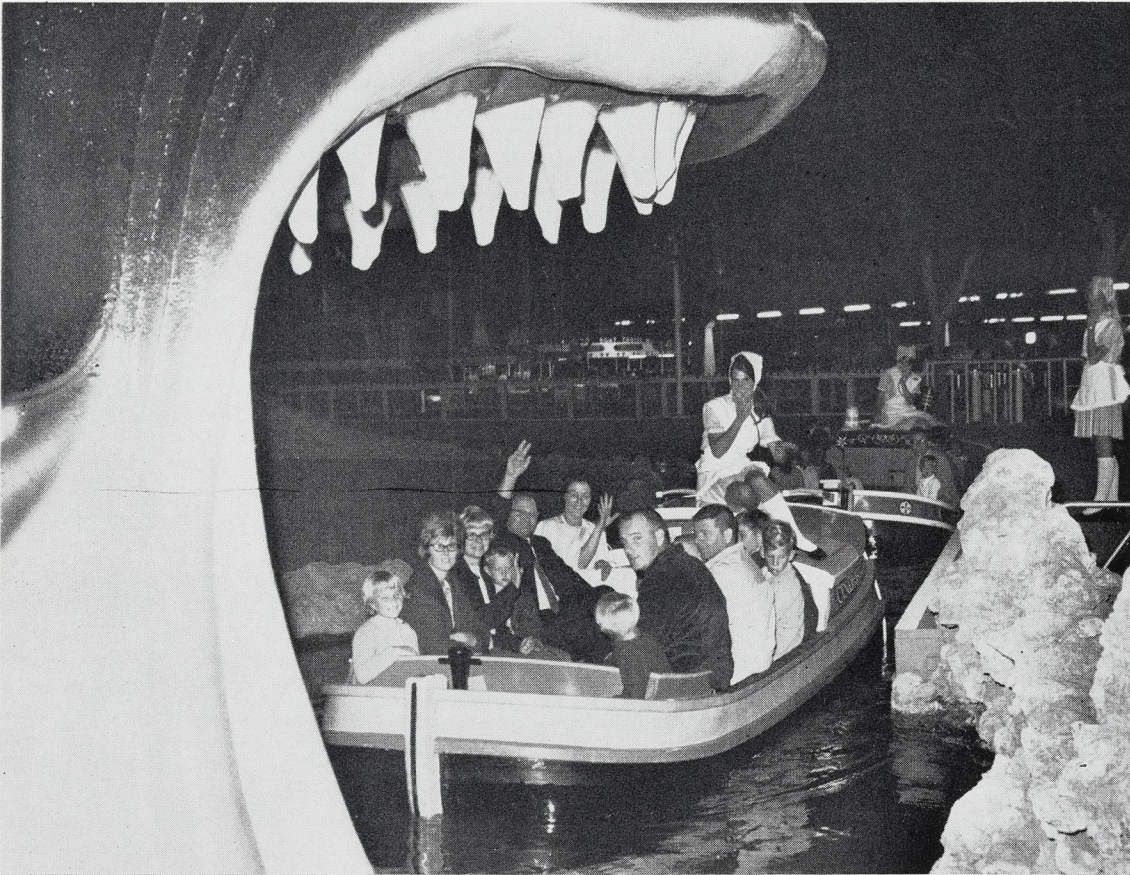
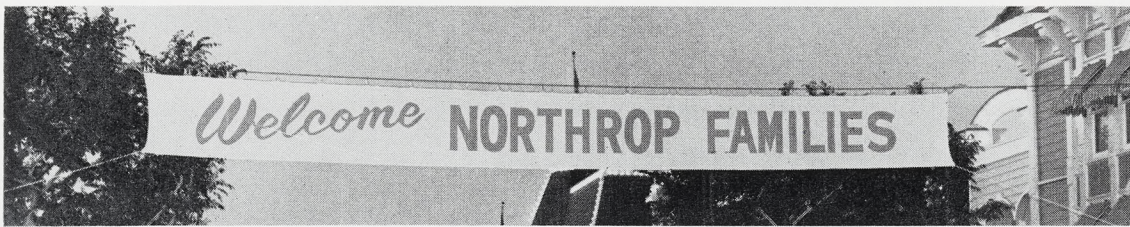


**FROM NEAR AND FAR**, an estimated 80 retired Northrop employees and their spouses converged on the Alondra Club May 15 for the second annual Northrop Retirement Club

reunion. They heard William Larrabee, retired Northrop vice president. In the left foreground is Norbert Lorentz, first president of the Club.

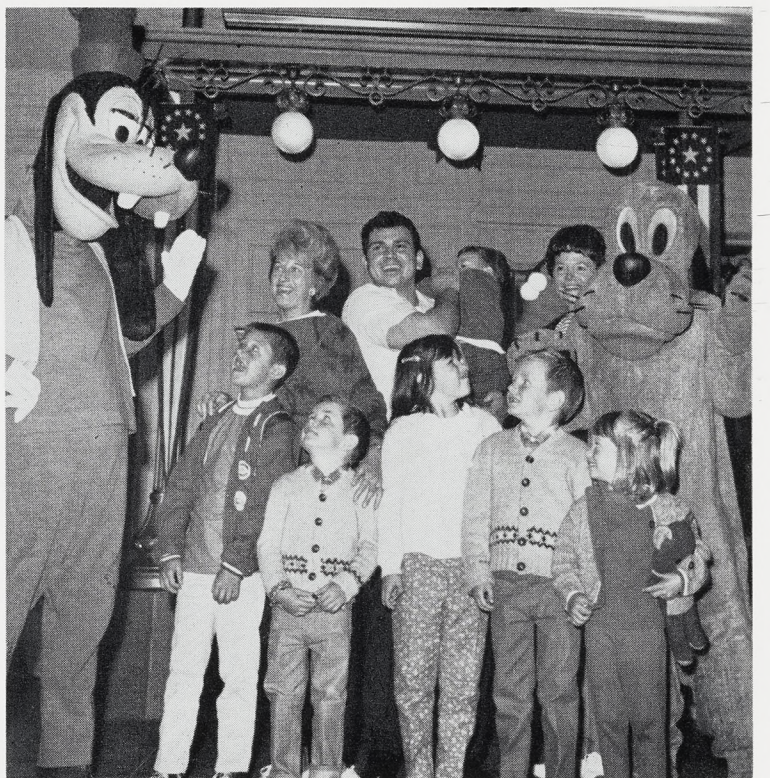
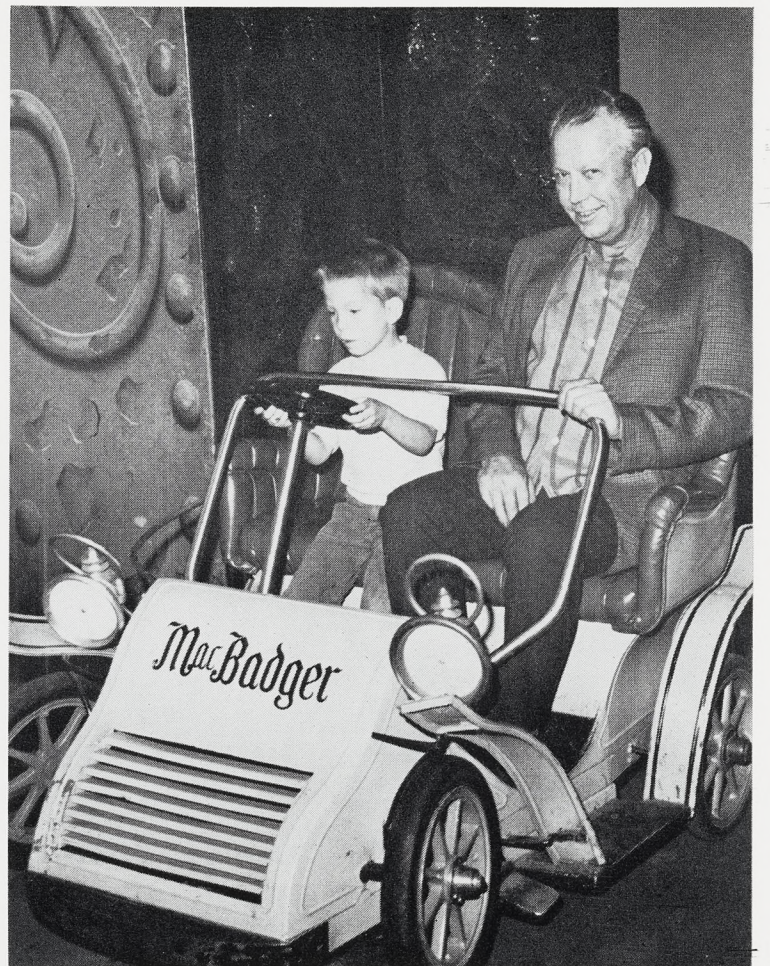


## Disneyland Night Has Record Turnout



DISNEYLAND OPENED WIDE again this year for thousands of Northrop families who attended Northrop Night at Disneyland. The NRC-sponsored event attracted 15,969 to an evening of unlimited rides and family fun, in what was the largest company-wide turnout

since the beginning of the annual activity. Larger-than-life Disney characters greeted the guests, charming children and adults. One of the features enjoyed was the recently re-opened Tomorrowland.





Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale	
Rambler, 1959 4-dr. sedan, stick shift, 6-cyl., \$275. 213-644-2885.	A
Model A, 1931 Tudor sedan Deluxe, \$350. 213-249-6222.	A
Porsche, 1965, 356c coupe, \$3,800. 714-595-2797.	A
Rambler, 1965, American, p/s, r/h, stereo, \$1,050; w/out stereo, \$1,000. 714-871-2749, 714-524-2146.	A
Chevrolet, Nova, 1966, 4-spd., \$1,550. 213-862-3027.	A
Buick, 1954, new tires & brakes, \$150. 213-672-6549.	A
Pickup Truck, 1950 Chevrolet, \$275. 213-324-2942.	A
Buick, 1963 Skylark, p/s, V-8, auto. trans., \$1,100. 213-830-6163.	A
Jaguar, 1960, 3.8 Mk. II, 700 miles on rebt. eng., \$900. 213-644-6382.	A
Volkswagen, 1966 sedan, 24,000 miles, a/c, \$1,500. 213-378-7479.	A
Volkswagen camper 1500, 1966, 75-lb. refrig., extra 3rd seat, \$2,100. 213-831-6560.	A
Comet, 1961, 4-dr. Deluxe sedan, auto. trans., \$400. 213-678-0250.	A
Chevrolet, 1964 Super Sport convt., a/c, p/s, p/windows, 4-spd., 327 eng., \$1,350. 213-373-3669.	A
Ford, 1959 2-dr., r/h, p/s, \$295. 213-679-6602.	A
Mustang, 1967 convt., p/s, r/h, 3-spd., auto., \$300 & take over \$85 mo. pymts., \$1,800 approx. bal., 213-677-4342.	A
Pickup Truck, 1953 Chevrolet 1/2-ton, \$400. 213-672-4450.	A
Pickup Truck, 1959 Chevrolet, 1/2-ton, 6-cyl., 3-spd., \$550. 213-545-4964.	A
Dart, 1964 GT, 4-spd., floor shift, r/h, \$1,100. 213-372-5367.	A
Pontiac, 1957, \$200. 213-393-4315.	A
MGA, 1961, model 1600, new tires, seat & cover, r/h, \$950. 213-673-3916.	A
Corvair, 1960, auto., r/h, \$199. 213-246-4495.	A
Cadillac, 1954, convt., new nylon top, \$250. 213-663-6402.	A
Ford, 1947 Woody, comp. rebolt. Chev. 283, elec. fuel pump, extras, \$600. 213-679-1657.	A
International, Travelall, 1966, V-8, auto. trans., p/b, p/s, a/c, r/h, \$2,200. 714-537-6243.	A
Comet, 1960, 2-dr., auto., r/h, \$225. 213-894-8490.	A
T-Bird, 1966 Town Landau, \$2,995. 213-235-4591.	A
Malibu, 1968 2-dr. sport cpe., p/s, a/c, 4-spd., \$3,150. 213-371-5124.	A
Austin Healey, 1960 Sprite, Pirelli tires, new brakes, console, radio, \$650. 213-378-2810.	A
Jaguar, 1966 XKE, roadster, p/disc brakes, knock-off chrome wire whls., \$3,700. 213-379-3487.	A
Station Wagon, 1965 Ford Fairlane 500, r/h, p/b, p/s, 289 eng., \$1,550. 213-676-1584.	A
TR-3, 1959, good tires, o/drive, \$275. Box 1101.	A
Station Wagon, 1959 Ford, 2-dr., 6-cyl., r/h, \$100. 213-377-7241.	A
Cadillac, 1953, \$135. 213-329-5986.	A
Station Wagon, 1965 Falcon, 2-dr., V-8 eng., auto. trans., p/s, r/h, \$1,350. 714-962-4134.	A
Volkswagen w/sunroof, 1957, new eng., radio, good tires & batt., \$375. 213-657-3074.	A
Rambler, 1967 American, 8,000 miles, \$1,900. Box 1102.	A
Ford, 1966 Galaxie 500, 4-dr., 39,000 miles, p/s, p/b, a/c, r/h, 320 eng., \$1,750. 213-377-6471.	A
Chevy II, 1963 Super Sport, 6-cyl., auto. trans., new brakes, tires, \$850. 213-644-5852.	A
Dodge, 1964 Custom 880, 4-dr., 383 V-8 eng., fact. air, auto. trans., AM-FM radio, extras, \$1,095. 213-673-4698.	A
Thunderbird, 1955, auto. trans., new paint, p/s, p/b, p/w, \$900. 213-379-8543.	A
Buick, 1965 Skylark spt. cpe., power, a/c, \$1,595. 213-675-5732.	A
Ford, 1964 Falcon van club wagon, auto. trans., r/h, 6-cyl., \$1,350. 213-377-3487.	A
Pontiac, 1967 GTO, 10,800 miles, turbo hydro, p/s, \$2,850. 213-534-3410.	A
Volkswagen, 1966 model 1300, r/h, s/belts, \$1,450. 213-989-1929.	A
Volkswagen, 1964, less than 2,000 miles on rebt. eng., \$1,050. 213-677-2034.	A
Station Wagon, 1959 Rambler, fact. air, r/h, good tires, \$225. 714-633-6325.	A
Lincoln, 1957, needs trans. work, \$50. 213-833-2512.	A
Pickup Truck, 1966 Ford, 1/2-ton, long bed, V-8, custom cab, w/camper, will sell separately, \$1,750. 714-524-0388.	A
Dodge, 1963, std. shift, r/h, 4-dr., 6-cyl., \$575. 213-678-8864.	A

Automobiles For Sale	
Volkswagen, 1968, 2,400 miles, r/h, \$1,800. 213-679-5212.	A
Station Wagon, Dodge 6-pass., air, auto., p/s, p/b, 383 eng., \$1,200. 213-831-4586.	A
Corvair Monza, 1963 Spyder convt., r/h, 4-spd., turbo charge, \$600. 213-374-2135.	A
Household Items For Sale	
Recliner Chair, Empire, \$35. 714-875-8495.	B
Table, flip top, game or dining, open 38x76, closed 38x38, white formica, 4 chairs, \$125. 213-759-5053.	B
Couch & chair, turquoise, Naugahyde, \$60. 213-679-9821.	B
Couch, Riviera, new mattress & seat cushions, \$50. 213-398-0968.	B
Range, Western-Holly, broiler, griddle, auto. oven, \$35. 213-838-3255.	B
Fryer, deep-fat, Empire, auto., \$4. 213-675-8813.	B
Barstools, 3 distressed w/brass rail, \$30. 213-374-3060.	B
Table Lamp, 3-way, milk glass, maple base, \$15. 213-675-5522.	B
Twin Bed, mattress & box springs, maple, 4-poster, \$50. 213-672-8468.	B
Chair, captain's type, red vinyl, \$15. 213-374-2996.	B
Sofa, 100", tapestry uphol. & maple rocker, other pcs., \$300. 213-675-8829.	B
Carpeting, red pebbletex, 8x10, \$25. 213-343-7880.	B
Dressing Table, baby's, w/4 wicker baskets, \$8. 213-835-3869.	B
Stove, 2-burner, closed top, elec. portable, Universal, used 5 times, \$5. 213-644-3084.	B
Range, 36", gas, grille, lights, window oven, clock, \$25. 213-329-9186.	B
Couch, 9' avocado green, \$50. other items. 213-677-3471.	B
Washer, Kenmore auto. w/sud saver, \$50. 714-521-5258.	B
Stove, Gaffers-Sattler, 1 1/2 yrs. old, copper, 31" wide drop-in type, \$75. 213-542-1141.	B
Washing Machine, Kenmore auto., 8-cyle, \$100. 213-675-8068.	B
Washer & Dryer, G.E. Filter Flow, \$275 213-678-1649.	B
Cocktail & end tables, \$35. 213-833-8436.	B
Refrigerator, General Electric, \$30. 213-329-3721.	B

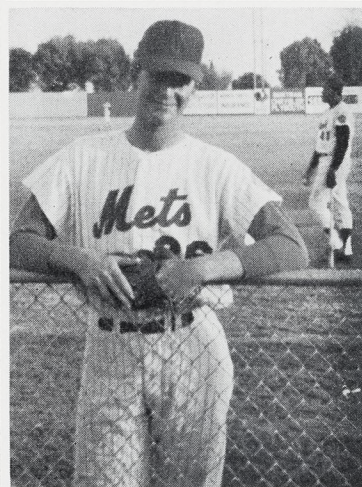
Miscellaneous For Sale	
Gun, Remington 700 BDL, 7mm mag. w/Red-field 3X-9X scope, fired only 20 rounds, incl. 2 boxes of new fact. ammo & 1 box of once-fired brass, \$240. 213-596-0521.	C
Piano, Lyon & Healy baby grand, apt. size, mahogany, \$480. 213-644-4258.	C
Bicycle, boy's, 26", \$10. 213-379-3134.	C
Guitar Amplifier, Vox Cambridge reverb., \$115. 213-596-5634.	C
Yamaha, 1968 Scrambler, 305 cc, 5-spd. trans., many extras, \$550. 714-774-3815.	C
House, 3-bdrm., dps., 2 miles from Norair, \$23,900. 213-675-0647.	C
Exercisor, bicycle type, \$7. 213-431-7696.	C
Bicycle, Sears 26" tandem, 2 children's seats, \$60. 213-294-0541.	C
Table Saw, Craftsman, 8" blade w/stand, 1 h.p. elec. motor, \$80. 213-370-6896.	C
Bicycle, girl's 24", med. wt., \$10. 213-328-3306.	C
TV, 21" color, console, \$250. 213-255-6625.	C
Muffler for Volkswagen, 40 h.p. eng., \$10. 213-823-4167.	C
Relaxacizor, 4-dial model w/all attachments, \$100. 213-328-6662.	C
Home, 4-bdrm., recently painted in & out, 40x20 heated pool, cpts., dps., professional landscaping, on lge. corner lot, \$48,500. 213-832-4472.	C
Honda, 1967 S-90, luggage rack, rock guard, other extras, \$240. 213-645-1274.	C
Townhouse, 4-bdrm., 1 1/4 bath, dble. gar., pool, rec. center, cpts., dps., bltin stove, \$2,000 equity, 5 1/4% FHA loan, \$18,500. 714-962-2529.	C
Motorcycle, Honda 150, elec. starter, \$250. 213-325-3724.	C
Coat, wool, beige, size 10, \$27.50. 213-674-6076.	C
Tack Room, 8 ft. by 9 ft., \$50. 213-320-5534.	C
Boat, 16', 75 h.p. Mercury outbd., new paint & motor o/haul, \$1,095. 213-329-1657.	C
Record Player, for auto, A.R.C. 2500, \$35. 213-644-6061.	C
Water Ski, Vogue Slalom, full banana-style, \$20. 213-630-4188.	C
Record Player, reconditioned w/support base, changer for all std. speeds, \$15. 213-370-7092.	C
Planimeter, K&E #62 0000 Compensating Polar, used once, \$30. 805-498-3549.	C
Prom Gown, aqua blue chiffon, elbow length pleated sleeves, empire style, size 7/8, \$20. 213-755-7255.	C
Tape Recorder & playback, Sony 260 stereo, bltin speakers, little use, \$175. 213-472-2031.	C
Air Conditioner, Friedrich 10,200 b.t.u. refrigerated, window or wall-type, 1 yr. old, \$175. 213-882-0761.	C
Organ, Conn deluxe, electronic, w/bench, \$1,100. 213-675-0521.	C
Home, 3-bdrm., family rm., 1 1/4 baths, custom, Early American, \$43,500. 213-372-2759.	C
Lots, 2, Inglewood Park Cemetery, \$750. ea. & pay deed transfer or \$1,450 for both. 213-756-9342.	C

Miscellaneous For Sale	
House, 3-bdrm., 2 baths, cpts., dps., sprinklers, 5 min. to Northrop, \$24,500. 213-321-1655.	C
Acreage, 10 acres, in Saugus near Fwy. 14 & campgrounds, \$5,500. 213-654-1242.	C
Gun, Ruger 22 Single Six, 22 or 22 magnum, 6 1/2" barrel, l. or r. hand holster, 1 yr. old, \$85. 213-336-8046.	C
Jewelry, white onyx beads & earrings set, \$8.50. 213-378-1863.	C
Metal-Mineral Locator, Detectron, \$125. 714-539-2098.	C
Home, 3-bdrm., 2 baths, lge. family rm. w/fireplace, beam ceilings, wood paneled den, bltins, d/washer, patio, Rolling Hills Ests., \$41,900. 213-373-3142.	C
Piano, spinet, Baldwin Acrosonic w/bench, walnut, \$450. 213-379-1261.	C
Gun, .25 auto. Czeck, Model CZ, \$30. 213-375-4312.	C
Transmitter, Heathkit CW w/VFO, \$15, other radio equip., various prices. 714-639-4438.	C
Sailboat, Cal 20, many extras, \$3,600. 213-373-3363.	C
Surfboard, Rick's, 9'11", 2-spd. skag, \$80. 213-675-5701.	C
Honda, 1963, 305 Super Hawk, rebt. eng., \$225. 213-673-5587.	C
Belt Sander, on stand, \$100. 213-865-5084.	C
Home, 4-bdrm., fam. rm., dining rm., rec. room, cement slab patio front & rear, 2-car gar., \$33,500. 714-495-5516.	C
Piano, upright, \$100. 213-676-0041.	C
Trailer Hitch, E-Z Lift, used once, \$50. 714-827-9356.	C
Home, in Garden Grove, 4-bdrm., 2 baths, repainted inside & out, lge. fenced yd., 2-car gar., \$21,995. 714-842-4049, 213-581-5208.	C
Motorcycle, 1967 Suzuki, 120 cc, \$350. 714-638-4014.	C
Rifle, H&R single shot, w/interchangeable barrels, \$40. 213-783-3054.	C
House, 4-bdrm., 1 1/4 bath, elec. kitchen, insulated, b/wall, enc. patio, bltin b-b-que, fireplace, sprinklers, 15 min. to Northrop, \$28,000. 213-320-6975.	C
Honda, 1965 305 Super Hawk, many extra parts, \$300. Box 1103.	C
Bicycle, 10-spd. Schwinn Continental, \$50. 805-495-4304.	C
Catamaran, 18', fiberglass, stainless steel rigging, alum. mast, 1 1/2 h.p. Seagull motor, \$400. Box 1104.	C
Precision Tools, .0015-.025 gauges, adj. parallels, many other tools, \$100 or sell sep. 213-329-9484.	C
Mini-Bike, 1967 Bonanza, 3 h.p., many extras, \$85. Box 1105.	C
Microscope, biological - type, mechanical stage, 50, 100, 400X eyepieces, \$55. 213-322-7869.	C
Amplifier, piggy-back 6-10" speakers, \$225. 714-842-5281.	C
Mini-Bike, 8 h.p., lights, horn, dual tanks, racing seat, \$135. 213-393-5649.	C
Aquarium Pump, Silent Giant just o/hauled, Luster auto. fish feeder, \$10 ea. 213-372-1632.	C
Boat, Lido, 14' complete w/cover & trailer, \$1,200. 213-454-4372.	C
TV, 23", b&w, Packard Bell consolette, wood cabinet, \$25. 213-363-6617.	C
Home, 3-bdrm., 2 baths, 16x36 pool, lge. covered patio, bltins, cpts., dps., 75x167 lot, \$45,000. 213-375-8778.	C
Partition, floor-to-ceiling, filigree panels, unfinished w/hardware, 40" wide, \$10. 213-293-5993.	C
Houses, 2 on a lot, main street in Hesperia, \$29,500. 213-378-2193; 714-244-2129.	C
Boat, 14', Dorsett, 45 h.p. Mercury motor & ski, \$450. 213-532-6497.	C
Honda, 1965 S-90, new tires, \$200. 213-320-3529.	C
Motorcycle Jacket, tailor-made ladies' size 38 w/boots, helmet & men's size 40, \$100. 213-676-5101.	C
Radio Direction Finder, portable transistor, 3-band beacon, marine & std. model Nora Tec pilot pal, 1 yr. old, \$30. 213-532-7381.	C
Air Conditioner, evaporation-type & swamper, 110V, \$15. 213-869-2673.	C
Sloop Rig, Firefly class, 12' pivoting center-board, trailer, \$595. 213-377-5862.	C
Horse, 8 yr. old gelding, 1/2 quarter, 1/2 Arabian, sound, experienced rider only, \$500. 213-644-2717.	C
Wedding Gown, full-length Bianca w/chapel train, silk organza w/lace & seed pearl bodice, size 12, \$35. 213-675-4553.	C
Tires, 2 Inglewood tire pos-a-traction, 8.15-15, 7" wide, \$28 ea. 213-675-2813.	C
Quarterhorse, registered mare, half thoroughbred, 4 yrs. old, \$750. 213-534-0060.	C
Lawnmower, rotary, Cyclone, 3 h.p. 4-cycle Briggs & Stratton quick start eng., catcher, 1 yr. old, \$35. 213-423-4837.	C
Sailboat, 8' Sabot, fiberglass hull, never been in water, \$65. 213-327-8927.	C
Honda, 1965 CB-177, 305 cc, \$350. 213-547-4689.	C
Speed Boat, 1968, 14', 40 h.p. Mercury elec. motor, tilt trailer, \$750. 213-679-1550.	C
House, 2-bdrm., stucco, full dining rm., lge. kitchen, fireplace, \$18,500. 213-671-6187.	C

Wanted to Buy	
Dimes, silver & quarters, will pay 7 1/2% over face value. 213-277-0190.	D
Bicycle, girl's, 20", Sting Ray in good condition. 213-375-6463.	D

Wanted to Buy	
Mini-Bike, 3 h.p. or over. 213-371-7274.	D
Panel Truck, 1935-1940 Ford or Chev. 213-632-2642.	D
Mini-Bike, Taco 44 or equivalent. 213-696-3467.	D
Engine, 283 or 327 Chev., complete. 213-371-7382.	D
Cement Mixer, used, electric or gasoline. 714-633-5826.	D
Drafting Machine, prefer left-hand model. 213-372-1641.	D
For Trade	
Mountain Boots, 8", size 9 1/2D, trade for used camper ice box. 213-328-5655.	E
Free (To Be Given Away)	
Pup, mixed terrier, black, 2 mos. old. 213-675-8891.	F
Dog, German shepherd, blonde, male, needs good home. 213-376-3533.	F
Rentals Offered	
Camping Trailer, 14', Scottsman, sleeps 5, \$35 wk. 714-528-3533.	G
Apt, 1 person, furn., utilities pd., 5 miles from Northrop, pool, \$100. 213-671-9598.	G
Cabin, A-frame, furn., sleeps 5, 40 miles west of Colorado Springs, close to stream & lakes, \$70 wk. 213-894-1937.	G
Cabin, Green Valley Lake, \$35 w/end; \$55 wk. 213-320-2002.	G
Cabins, Lake Gregory & Crestline, sleep 6, make reservations now, \$25 w/ends; \$60 wk. 213-391-2040.	G
Apt, small, modern, on Catalina Island, walking distance to bch., bicycle to use, 2 adults, \$65 wk., 2 adults & 2 children, \$80 wk. Box 1106.	G
Bachelor Apt, furn., close to Northrop Norair, \$75. 213-676-5921.	G
House, 3-bdrm., 2 baths, ocean view, near beach, \$175 wk. 714-492-1068.	G
Cabin, Lake Arrowhead, close to lake & village, fireplace, patio, \$60 wk. 213-761-9645.	G
Rentals Wanted	
House, 2-bdrm., Inglewood or Hawthorne area, 2 small children, reasonable, before June 30. 213-830-2915.	H
Child Care	
Child Care offered, weekly, fenced yd., hot lunches, all ages. 213-370-9652.	I
Child Care offered, my home, Gardena. 213-324-2107.	I
Personals	
We wish to thank our many friends at Nortronics & Norair for their many acts of kindness & expressions of sympathy on the loss of my husband, Bill Lane. They were of such comfort, are deeply appreciated & will be fondly remembered. SUZETTE LANE & CHILDREN.	
Sincere thanks to my many friends at Northrop for their heartfelt thoughts & concern in the recent loss of my mother. LUCILE BINNING.	
The many friends & former co-workers of Charles & Ethel Root are saddened by his death on April 29 in Portland, Ore. Sincere sympathy to Ethel & family.	
Lady, would like to share home & household expenses w/Christian lady, preferably retiree. 213-371-3405.	
I wish to express my sincere appreciation for your thoughtfulness during my husband's illness & his death. BELLE MOLLE.	
We wish to express our gratitude for the flowers, cards & kind expressions of sympathy in the loss of our father. WALLY KUEGEMAN & FAMILY.	
I wish to thank all my friends at Northrop for the cards & plant sent to me during my recent stay in the hospital. Your thoughts were appreciated. L. V. LEMIRE.	
My deepest gratitude to all who are showing concern—prayers, visits, gifts—for my daughter Peri after her accident. MARIANNE McMILLAN.	

For Sale or Trade	
Cabin Cruiser, 25' Hunter, \$1,300 or consider trade on auto. 213-320-6685.	M
Ski Boat, 16' Jav-Lin, rideguide, 80 h.p. Merc. outbd., extras, trailer, \$995 or trade for fishing boat, 16', w/40 to 60 h.p. outbd. 213-944-3794.	M
Lot, lge. residential, Palos Verdes Estates, \$23,500 or trade for R-3 property. 213-541-1226.	M



Bruce Harkey

Rides and Riders	
Rides Wanted	
7 a.m. — 3:42 p.m.	
Hawthorne & Broadway, Inglewood. Diana Peterson, Norair ext. 5166, 213-679-9331.	
Yukon Ave. & 171st St., Torrance. Will walk to Crenshaw or Prairie Ave. Ride wanted especially in mornings. David R. Miller, Norair ext. 2004, 213-329-9303.	
8 a.m. — 4:45 p.m.	
William Dr. & Jenny, Newbury Park. Dr. H. W. von Guerard, Northrop Ventura ext. 1258, 805-498-3768.	
Near Robertson Blvd. & Cattaraugus, Los Angeles. Susan Gold, Norair ext. 1314, 213-837-7524.	

TRAINING  
(Continued from page 3)

stipend. Under MA-1 the agency trained the unemployed for possible placement with various industries. MA-2 will train the workers as employees of the firm that does the schooling.

The announcement of the MA-2 assignment brought from Mr. Walton the comment that in the past 15 months Northrop has given industrial training to 3,571 persons while professional and/or supervisory training was given to 1,371 others. That represents some 330,000 hours, he noted.

MA-2 is in keeping with the objectives of the National Alliance of Businessmen, established at the request of President Johnson and headed by Henry Ford II. Northrop President Thomas V. Jones is a district chairman of hard core unemployed hiring for the Alliance, and Robert R. Miller, Northrop senior vice president, is a district vice chairman.

Air Force Major  
Logs 1,000th Hour  
In Northrop F-5

Major Billy B. Gilbert, USAF, last month became the first pilot to log 1,000 hours of flight in the Northrop F-5 tactical fighter.

Major Gilbert, an instructor pilot with the 4441st Combat Crew Training Squadron, Williams AFB, Arizona, set the new Air Force record on a 70-minute sortie to Peterson Field, Colorado.

Since entering the Air Force in 1957, Major Gilbert has logged over 2,970 hours, including 317 combat hours over South Vietnam.

Employee's Son  
Signs With  
New York Mets

The son of an electronics assembly inspector at Anaheim has signed with the New York Mets baseball club.

Bruce Harkey, whose mother is Rebecca Harkey in the MK-7 assembly area, is a former pitching star from La Habra High School where he had a 7-2 record during his senior year of league competition, and an earned run average of .86.

The 19-year-old, 210 pound, 6-5 right-hander spent 30 days in spring training at the Mets' camp in St. Petersburg, Florida. He has since been assigned to the Visalia, California, farm club, a member of the class A California League.



# Management Systems To Conduct Seminars

Northrop Ventura's Management Systems and Organization, which already has a variety of functions, is about to take on a new job—that of conducting a series of management seminars.

Four Management Systems business analysts—Gene Cox, Bob Gordon, Bob Jenks and Ted Randolph—will instruct line supervisors at these seminars beginning late this month, in conjunction with Chuck Borst, chief of training programs.

Chuck Merlian, chief of Management Systems and Organization, explained the need for the seminars:

"The problem is that Northrop Ventura has rapidly grown from 1,200 employees to 1,800 in the past several months. We have many new supervisors; people who haven't had the time or the opportunity to find out how we do business at Northrop Ventura. The seminars, therefore, will cover total operation from acquisition of business to delivery of hardware."

Mr. Cox, who has been with Northrop for 20 years, will instruct management in Product Design, Test, Release and Change Activity. Mr. Randolph, a 12-year man with the firm, will discuss Production Change Board, Planning, Procurement, Tooling,

Shop Release and Product Support.

Mr. Jenks, who joined Northrop last year, will lead seminars on Business Planning, Product Development and Sales.

Mr. Gordon, a former operations research analyst, will instruct on Proposals, Contract Acquisition and Work Release. Mr. Gordon, who joined Ventura last year, is working toward a Ph.D.

"Our role," Mr. Merlian said, "is to define just how Northrop Ventura does business, and to define the organization of the division."

Other Management Systems and Organization personnel are Barbara Fuller, forms control analyst, and secretaries Lupe Zuniga and Toni Heffer. Mr. Cox, Mr. Gordon, Mr. Jenks and Mr. Randolph are all systems analysts.

Among the functions of the group are:

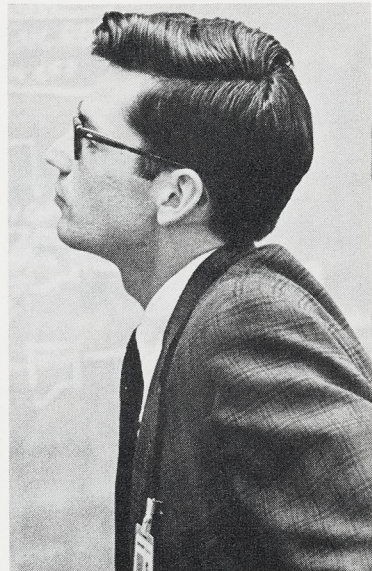
Development, review and coordination of Ventura business systems. Establishment and maintenance of integrated systems plans. Development and coordination for management approval of policy and procedural documents. Identification and study of areas of apparent organizational overlap and duplication with recommendations designed to reduce costs and increase effectiveness.



Mr. Merlian



Mr. Cox



Mr. Gordon



Mr. Jenks



Mr. Randolph



Mrs. Fuller

## Sons, Daughters Receive National Merit Scholarships

Six sons and four daughters of Northrop Corporation employees have been named winners of National Merit Scholarships for the 1968-69 school year.

This brings the number of Northrop-sponsored scholarships

(See photos on page 2)

active for the next school year to 36.

Four of the winners are from Norair families; three, from Nortronics; two, from Northrop Ventura; and one from Page Communications.

The scholarship recipients are Duncan Agnew, Thomas Coates, Geraldine Fitzpatrick and Michael Stamp, Norair; Robert Parker, Gail Blythe and Lou Cinda

Holt, Nortronics; Nancy Ewing and Jim Kornell, Ventura; and Gary Belford, Page.

Duncan Agnew, son of George E. Agnew, plans to attend California Institute of Technology, where he will major in physics. His brother, Carson Agnew, was a 1966 scholarship winner.

Thomas Coates, son of Thomas L. Coates, also will major in physics at CalTech. He was a district president of the California Scholarship Federation.

Geraldine Fitzpatrick, daughter of Emmett Fitzpatrick, will major in liberal arts at California State College at Fullerton.

Michael Stamp, son of Howard J. Stamp, will attend Massachusetts Institute of Technology, majoring in biochemistry.

Robert Parker, son of Dr. William Parker, will enroll at the University of California at Santa Barbara, majoring in electrical engineering.

Gail Blythe, daughter of Alfred Blythe, plans to major in pharmacy at the University of Southern California. Her father works at Nortronics Hawthorne.

Lou Cinda Holt, daughter of Frank Holt, will attend Rice Institute, majoring in philosophy. Her father is employed by Brown & Root-Northrop in Houston.

Photographs of Miss Blythe and Miss Holt were not available at press time, and will be used at a later date.

Nancy Ewing, daughter of Paul Ewing, will major in foreign languages at Occidental College.

Jim Kornell, son of Hal Kornell, will enroll at the University of California at Santa Barbara, majoring in electrical engineering.

Gary Belford, son of Kenneth Belford, will enroll at Carnegie Mellon Institute in Pittsburgh, majoring in engineering.



Miss Zuniga



Miss Heffer

## Iranian Navy's Chief of Staff Visits Ventura

Vice Admiral Shams Safavi, chief of staff of the Imperial Iranian Navy, was the guest of Northrop Ventura on May 21.

Admiral Safavi was taken on a tour of Ventura facilities which included briefings on the MQM-74A, RP-76 and NVM-1 programs. He was guest of honor at a luncheon, and was taken on a tour of Universal Studios.

The Imperial Iranian Air Force uses the Ventura-built NVM-1 target drone, and the Navy and Army are scheduled to begin using it soon.



**WILLIAM RAIKES** (left), a field technical associate at Northrop Ventura, receives his 25-year pin from **Welko E. Gasich**, vice president and Ventura general manager. He joined Northrop on April 30, 1943, and transferred to Ventura in 1957.



**DISTINGUISHED VISITOR**—Rear Admiral **Paul L. Lacy, jr.** (left) is briefed on Northrop Ventura programs by **Gus Duke**, manager of the Mobile Anti-Submarine Warfare Target

program. Admiral Lacy, former commander of Navy Support Activities in South Vietnam, was featured speaker at the last meeting of the Northrop Ventura Management Club.



# NORTHROP NEWS

NORTHROP VENTURA

Published biweekly by Northrop Corporation, Beverly Hills, California

Vol. 26, No. 12

June 19, 1968

## Long-Term Growth Seen By Mr. Jones

Steady, long-term growth, which always produces many new opportunities for advancement, has been predicted for Northrop Corporation by President Thomas V. Jones in a public address.

Speaking before the San Francisco Society of Security Analysts, Mr. Jones declared, "Our realistic operating plans—not hopes but actual plans—indicate we will reach a level of \$700 million in sales in 1970 and with the help of a few acquisitions we would expect to approach a billion dollars in volume by 1972."

Last year Northrop sales amounted to about \$471 million, and in this fiscal year which ends July 31, sales are expected to reach about \$490 million, Mr. Jones said. Indicative of the sound and steady progress of the company, he has forecast profits this year will reach about \$15 million, compared with \$12.5 million for last year.

Mr. Jones said he expects the company's earnings to reach an even higher rate of increase in future years as volume builds up on major programs.

"The 747 Program," he said, "represents about 20 per cent of our total employment, but only about 2 per cent of billings or sales for the current fiscal year. We believe our 747 sales (See MR. JONES, page 6)



*AFTER THE TEST—Technicians at the Department of Defense Parachute Test Facility in El Centro examine the Apollo earth landing system and test vehicle, following a successful*

*drop test early this month. It was the fifth of seven drop tests Northrop Ventura is conducting to qualify the Apollo parachute system for manned space flight.*

## Sixth Apollo Drop Test Successful

The sixth in a series of seven drop tests—being conducted by Northrop Ventura to qualify the Apollo earth landing system—was completed successfully Monday, adding to the growing optimism throughout the nationwide program that a manned space flight may be possible before the end of 1968.

The sixth aerial drop test simulated a normal entry with apex cover jettison and augmentation, one drogue parachute and three main parachutes. The fifth simulated a high altitude abort situation. The test indicated that even if one of the three drogue parachutes in the system failed to deploy, the spacecraft could still land safely.

Indication that other aspects of the Apollo program are going well were given recently by Major General Samuel G. Phillips, Apollo director, Office of Manned Space Flight, and Astronaut Donn Eisele at the annual convention of the Aviation-Space Writers Association at Cocoa Beach, Florida.

Both General Phillips and Astronaut Eisele described the Apollo 7 spacecraft, built by North American Rockwell Corporation, as being as perfect as humanly possible.

While the official launch date of the first manned flight is scheduled for "the fourth quarter of 1968," General Phillips said that there was a lot of heavy testing and preparation still ahead this summer before a firm date can be set.

Mr. Eisele said that astronaut training was nearly completed and the three-man crew, commanded by Wally Schirra and including Walt Cunningham, would be ready by the first of August.

(See APOLLO, page 6)

## NV Receives Award

Northrop Ventura was honored this month at the third annual Golden Oaks award luncheon, sponsored by the Conejo Beautiful Society.

The award, a certificate, read "in recognition of Northrop Ventura's endeavors in preserving and contributing to the aesthetic values of our community."

Henry Still, Northrop chief of Public Information, accepted the award.

## Ventura Daughters Chosen In Miss Conejo Pageant

The daughters of two Northrop Ventura families served the 12th annual Conejo Valley Days this month as the queen and one of the four members of her court.

Elizabeth Henjum, the 18-year-old daughter of Engineer— (See photo, page 6)

ing Specialist Cliff Henjum and Mrs. Henjum, was selected to serve as Miss Conejo Valley, from a field of 38 entrants. She also was chosen Miss Photogenic by the official pageant photographers.

Sandi Linebarier, 17, was voted third runner-up. She is the daughter of Harvey Linebarier, a manufacturing specialist in Manufacturing Research, and Mrs. Billie Linebarier, an administrative secretary in Finance.

Miss Conejo Valley and her "court" of four runners-up attended such Conejo Valley Days events as the queen's ball, a swimming meet, a rodeo, golf tournaments, a western jambo-ree, a parade and carnival, and the naming of the grand marshal.

Miss Henjum, a freshman at the University of California at Santa Barbara, was in the Miss Conejo Valley contest for the

second time. Last year, she was a semi-finalist.

As a student at Thousand Oaks High School, she was president of the language club. She was vice president and secretary of a youth group at Trinity Lutheran Church in Thousand Oaks. At UCSB, she plans to major in French. Other activities included participation in student council, girl's league, rally club, and public speaking.

Miss Linebarier, a junior at Thousand Oaks High School, is a soprano in the school choir and a member of a special 16-voice choral group. She is a member of the American Field Service, and is active in the Conejo Valley Baptist Church. She hopes to at- (See MISS CONEJO, page 6)

## APOLLO EMPLOYEES

### Apogee Club Forming

Nominations will be made soon for membership in the Apogee Club, which is being formed to honor Northrop Ventura employees for outstanding contributions to the Apollo Program.

Program Manager W. A. Steyer said employees will be nominated "based on outstanding individual performance and/or significant contribution to the objectives of the Apollo Program." The first nominations will be made next month. Any employee who has been assigned to Apollo will be eligible for membership consideration.

Each month, department heads will recommend those employees whom they believe should be considered for membership. An Apogee Club Standing Committee then will vote on the selection.

The committee will include George Grogan, vice president of Engineering; M. A. Maurer, vice president of Manufacturing; Mr. Steyer; and George Johnson, acting manager of Quality Assurance. Mr. Steyer will be committee chairman.

Nominees who are approved for membership will receive membership certificates.

Members of the Apogee Club will be eligible for consideration to receive "Snoopy" pins and a letter of commendation from an astronaut. "Snoopy"—the impish puppy dog from Charles Schulz's popular comic strip "Peanuts"—is the watchdog of quality and the symbol of craftsmanship for exemplary work on Apollo. Recipients are limited since the astronauts are the only personnel who wear the pin.

## Good Citizenship Program To Stimulate Voter Interest

Plans were completed this week for a campaign encouraging all Northrop Corporation personnel to take an active part in supporting their political parties and candidates in preparation for the general elections next November.

The Good Citizenship Program sponsored by Northrop in all divisions is part of a statewide movement which has enlisted more than 25 major industrial firms in the task of promoting greater political action.

Frank R. Smith, Corporate director of Industrial Relations, is chairman of the steering committee which is guiding Northrop's Good Citizenship Program.

### Register Voters

He pointed out that major efforts will be devoted to sign up all unregistered voters so that they will be eligible to vote in November. In addition, all personnel will be encouraged to give financial support to their political parties, or specific candidates, and to offer volunteer help as the election approaches.

"Above all," Mr. Smith said, "we want to be sure that every eligible voter will exercise his

voting franchise."

The Good Citizenship Program has received enthusiastic endorsement by Northrop's top management, including Thomas V. Jones, president and chairman of the board.

"Citizenship in the democratic United States is a state of being which most of us take for granted, because we have not been called upon personally to defend it," Mr. Jones commented. "The fact is, each of us must defend it. Line of Defense

"The first line of defense is the ballot box where we periodically select the public officials who will operate the machinery of our government.

"If we choose good men and women, we are fortunate. If inept people get into office, we can blame only ourselves for failing to become involved in the elective process.

"That process includes voting," Mr. Jones added, "but it is more than voting. It requires knowledge of the candidates; participation in candidate selection; and, finally, direct assistance to the party and candidates of your choice in preparation for the November general election."

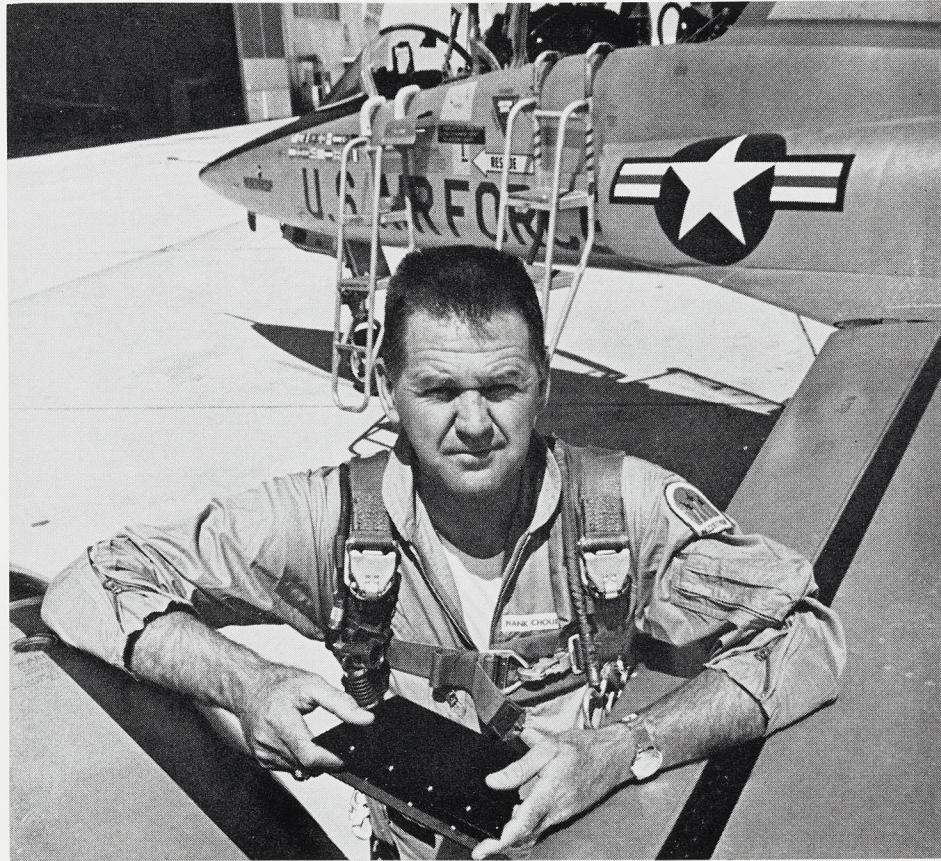


*"That government is the strongest of which every man feels himself a part."—Thomas Jefferson*





**NEWS BRIEFING**—Ralph Dighton (left) of The Associated Press listens as Northrop's Dr. E. L. Harmon, an advanced materials scientist, explains the uses of graphite composite, a new material made from charred rayon threads. At right is H. E. Maninger, chief of Research and Technology Marketing for Northrop.



**NEW MATERIAL IN USE**—Northrop's chief test pilot, Hank Chouteau, holds an F-5 aircraft part made of the new graphite material. It is twice as strong as steel, yet 40 per cent lighter than aluminum. A duplicate of this part was installed on the Northrop F-5 tactical fighter in this photo.

## Graphite Composite; Stronger Than Steel

Graphite composite, a new material made from charred rayon threads, could eventually replace metals now used in the manufacture of aircraft.

A leading edge wing part, designed by Northrop Norair Engineering and manufactured from the tough new material, was recently tested in flight for the first time on a Northrop F-5 at Edwards Air Force Base.

News men were told of the use of the new substance in aircraft construction at a briefing at the Statler Hilton Hotel in Los Angeles. Dr. E. L. Harmon, advanced materials specialist, Northrop Norair Engineering Research and Development; Hal Maninger, chief, Research and Technology Marketing, Northrop Norair; J. N. Bohn, western regional manager, Chemical Propulsion Division, Hercules, Inc.; Robert B. Forsyth, applications manager, Advanced Materials department, Union Carbide Corporation; and Jack Williamson, vice president, U. S. Polymeric, Inc., were interviewed jointly by the attending press.

### Rayon Thread

Beginning as rayon thread, the material is processed and wound into layers over a mandrel form block to the shape of a graphite composite airplane part which is twice as strong as steel and 40 per cent lighter than aluminum, yet lends itself to conventional machining techniques.

"We expect to find significant use of graphite composite on high performance aircraft within five years," said Dr. Harmon who has been heading the aircraft applications of the new material at Northrop, "and in 10 years we can see graphite composite replacing possibly as much as 30 per cent of structural aluminum and titanium applications on airplanes."

### Airframe Use

Dr. Harmon and his study team foresee that eventually, entire airframes could be made of the new material. Aiding him in the study of the graphite material were Bernie Bowen, in Fabri-

cation and Processing, and Joe Wada, in Design.

Working on other phases of graphite studies were Frank St. Germain, Materials Application; Bob Helm, Analysis; and Bob Johnson, Fabrication and Processing.

Assisting Mr. Maninger in Marketing has been Marketing Representative Floyd Damman.

### Textile Technique

In a process more like textile production than metal forming techniques commonly associated with aircraft production, the charred rayon yarn is soaked in liquid plastic, coiled on bobbins, then wound on mandrels to form the desired aerodynamic shapes.

The first aircraft test sample, an eight-inch long section of a wing leading edge, now being test flown on the F-5, was designed and engineered at Northrop, where preliminary steps are under way to design a nine-foot-long wing flap of the new graphite composite, followed successively by other wing and fuselage components.

### Combined Effort

The technical breakthrough to aerospace application of the new material was a combined effort of Northrop, Hercules, Inc., Union Carbide Corporation, U. S. Polymeric, Inc., and the U. S. Air Force Materials Laboratory at Wright-Patterson Air Force Base.

Union Carbide produces the yarn, called Thornel 50, by an intense heat process that converts an ordinary industrial rayon yarn to graphite yarn. U. S. Polymeric then applies a resin that slightly stiffens the yarn and makes it "tacky," properties that facilitate the winding process and transfer strength throughout the material. Finally, Hercules winds the treated yarn on a mandrel, building up layers which, after curing under heat and pressure, became the tough, light aircraft part produced to Northrop's design requirements. The Air Force Materials Laboratory coated half the part with nickel to implement rain erosion studies.

## Dr. Hicks Plans July 8 Speech In Montreal

The importance of modern management methods in aerospace research — despite their apparent paradoxical imposition of controls on what has traditionally been regarded as a creative "hands-off" endeavor — is stressed in a talk to be given by Dr. Donald A. Hicks at a joint meeting of United States and Canadian technical societies in Montreal July 8.

Dr. Hicks, vice president of Research and general manager of Northrop Corporate Laboratories, is scheduled to speak the first day of the meeting. The two-day event is sponsored jointly by the Canadian Aeronautics and Space Institute and the American Institute of Astronautics and Aeronautics.

Entitled "Management of a Modern Aerospace Research Program," Dr. Hicks' talk is part of the Industrial Management Section of the meeting. This session is headed by F. W. Lloyd, vice president and Norair general manager.

## Torrance Luau Set For Hawaiian Tour

A Sunday afternoon Luau on July 14 at the Latitude 20 Restaurant, Torrance, will kick off planning for the Northrop Travel Clubs' annual yearend Hawaiian group tour.

Tickets, at \$4 a person, are available through all Personnel Activities outlets.

The 1968 Hawaiian tour will be offered in two segments. An eight-day, three-island, tour will be available for \$330. For those who have vacation time to add to Northrop's traditional yearend holiday, a 12-day, four-island, tour will be offered at \$385.

## Tickets to Play Available

Regular \$6.30 tickets are available to Northrop employees for \$3.50 for three performances of "In The Matter of J. Robert Oppenheimer" at the Mark Taper Forum, Los Angeles Music Center.

## WITH NORAIR, NORTRONICS

## Page To Head Joint Study

A six-month information systems study will be conducted jointly by three Northrop Corporation operating units under a contract awarded to Page Communications Engineers, Inc., Washington-based subsidiary of Northrop, by the Air Force Electronics Systems Division (AFESD), Hanscom Field, Bedford, Massachusetts.

The study is entitled "Tactical Position Location / Common Grid Analysis" and formerly was known as CASOFF, an acronym for Control and Surveillance of Friendly Forces.

The study will analyze and evaluate the effectiveness of techniques and methods for position finding, communications and identification for use with the Air Force Tactical Air Command Control System.

As part of the Page study, Northrop Norair will provide

studies in systems cost effectiveness and operations analysis.

Northrop Nortronics, which has designed and produced navigation systems for such aircraft as the U. S. Air Force SR-71 and C-5, is providing studies of navigation and guidance systems.

According to the Air Force, the Tactical Position Location / Common Grid functions are performed today by ground radar and IFF equipment for high flying aircraft.

When the Airborne Warning and Control System comes into being, this coverage will be extended to include ground based units and low flying aircraft.

Implementation of a Tactical Position Location / Common Grid capability would provide significant improvement in accuracy and be capable of real-time communications with no mutual interference.



**SIX YEARS OF SERVICE**—M. E. (Red) Beyrodt, jr. (left), Northrop Corporation Community Relations representative, receives a certificate of appreciation from George F. Knoche, crusade chairman of the Los Angeles County Branch of the American Cancer Society. Mr. Beyrodt has been Northrop's representative to the society for six years, aiding in the securing of contributions.





**TAKEOFF IN SPAIN**—Initial Northrop F-5 tactical fighter to be produced in Spain lifts off the runway at Getafe with Darrel Cornell, Northrop test pilot, at the controls. Seventy air-

craft, designated SF-5, are being produced for the Spanish Air Force under a special licensing agreement. It was one of three new versions of the F-5 making a debut in May.



**FIRST FLIGHT** in Spain of the SF-5A last month brought together this group of key CASA leaders with Northrop men. They are (from left) Senores Jose Ramon, Eugenia Aguirre, Don Jose Echague, Test Pilot Darrel Cornell, Senor R. Estrado, Northrop Vice President F. W. Lloyd, and Senor Jose Cervera.

irre, Don Jose Echague, Test Pilot Darrel Cornell, Senor R. Estrado, Northrop Vice President F. W. Lloyd, and Senor Jose Cervera.



**RETIREMENT GIFTS**—Muriel Jones smiles as she receives a gift and a plaque (in foreground) from fellow workers at the Northrop Corporate office. She was secretary to George Gore (left), Northrop vice president, general counsel and secretary, for 18 years, and was with the company for 21 years.

## Still, Ramsey Named to Key P. R. Positions

Henry Still, manager of Public Relations at Northrop Ventura for five years, has been appointed Corporate chief of Public Information and has been assigned to the Corporate offices.

Succeeding Mr. Still at Ventura is Charles Ramsey, who has been a member of the Public Relations staff for three and one-half years. Before joining Northrop, Mr. Ramsey was employed by the Washington (D.C.) Star as a news editor and by the Fluor Corporation as a public relations representative. He edited the Northrop News before being transferred to Corporate headquarters in 1966.

Prior to coming to Northrop in 1963, Mr. Still was a newspaper reporter and editor for 20 years, including a four-year assignment as city editor of the Rocky Mountain News in Denver. Mr. Still came to Northrop from the Martin Marietta Corporation, where he was on that firm's public relations staff in Baltimore and New York. He is the author of four books on world problems, the latest of which will be published next fall by Hawthorn Books, Inc.

## Page Employee Describes Escape From Viet Cong

How does it feel to be an American in a Viet Cong-controlled city in Vietnam?

A Northrop man who has lived that experience is Delbert Weeks, a senior technician for Page Communications Engineers, a Northrop subsidiary.

Mr. Weeks, who joined Page in April 1967, is based at Page's Integrated Wideband Communications System headquarters in Hue—and for eight days last spring, he would have preferred being just about any place else in the world.

That was when the Viet Cong launched an attack which led to the control of nearly all of the city of Hue.

Mr. Weeks, who had lived in California before going to Page, sought refuge in a basement when the Viet Cong took command. For three days, he hid in the basement.

When he heard that the Viet Cong had been going through the neighborhood, searching for Americans, he decided he had to try to make his escape to the American forces.

He searched through the house and discovered a pair of black rayon trousers and a matching blouse; the traditional "black pajamas" of the Vietnamese.

"I tried them on," he later said, "and put on a conical straw hat, but I still just looked like an American in a funny costume. I looked about as Vietnamese as Roy Rogers."

His Vietnamese maid agreed to help him. She applied grease to his face, padded his ill-fitting costume and placed a small baby in his arms, thus making him an impromptu Vietnamese mother. The child was the baby of the maid's friend, and was the perfect thing to complete his disguise.

"We joined a group of refugees," Mr. Weeks said, "and started wandering through the streets."

"I didn't know how convincing my disguise would be, and there were North Vietnamese soldiers on every corner."

Finally, the maid, the baby

and the American reached the refugee center; the ruins of a school. For four days, Mr. Weeks slept as much as possible, always keeping his hat pulled over his face.

"The North Vietnamese soldiers came through the camp from time to time," he said, "asking the refugees to point out any Americans. There were many refugees who knew I was an American, but none turned me in."

Once, Mr. Weeks himself was asked if he had seen any Americans, to which he replied in his best Vietnamese, "Toi không biết" . . . "I don't know."

On the fifth day, Mr. Weeks awakened to the sound of gunfire, as the U.S. Marines were recapturing Hue, driving the Viet Cong back into the hills. The first Marines to enter the schoolyard were greeted by the strangest "Vietnamese mother" they had ever seen. "She" was wearing an eight-day beard and looked remarkably American.

## Merit Scholarship Recipient Will Attend Pomona

Susan M. Hinds, 17, was awarded a four-year college scholarship under the National Merit Scholarship program.

Her father is Edwin J. Willcox, a member of Northrop Corporate Laboratories' Plans and Programs organization.

Miss Hinds, a senior at Camarillo High School, won a scholarship sponsored by the U.S. Army. Northrop Corporation has just completed the awarding of 10 scholarships to Northrop sons and daughters under this program.

Miss Hinds is secretary and a life member of the California Scholarship Federation. She plans to enroll at Pomona College.



Miss Hinds



**GAIL BLYTHE**, with her parents, Mr. and Mrs. A. E. Blythe, displays her National Merit Scholarship certificate, sponsored by Northrop Corporation. Her father, supervisor of Personnel Administration at Nortronics Hawthorne, has been with the company for seven years. Miss Blythe graduated this month from Loara High School in Anaheim, and will attend the University of Southern California.



## Artist Robert Mack's Canvases Tell Stories

Artist Robert Mack puts oil on canvas in a way that tells a story. In only a year of realistic figure painting, he has won awards in 10 art shows entered. Often, he paints portraits of his own children. Always he paints youth.

He is not afraid of hands or other detailed features. This, coupled with his innate ability and sensitivity for expression, has brought him to a point where, today, important art dealers are noticing and appreciating his work.

One Beverly Hills gallery already has sold eight of Bob's earlier canvases. And, just last week, an agreement was made for Bob and his work to be represented by the Challis Galleries in Laguna Beach.

"I'd like to build my own collection to the point where I could have a show soon," Bob said. Even now, his work is on display at Nortronics Anaheim in the first floor corridor of Y-3, and will be until July 1. In addition, Bob must find time to fulfill a com-

mitment for five individually commissioned paintings.

If the motivation is there, Bob can complete a painting—working with brushes, a knife and his fingers—in three to four weeks.

Since he first switched from water colors to oils last June, Bob has been consumed by his work. He has never been without a canvas on the easel. He works in a corner of his bedroom.

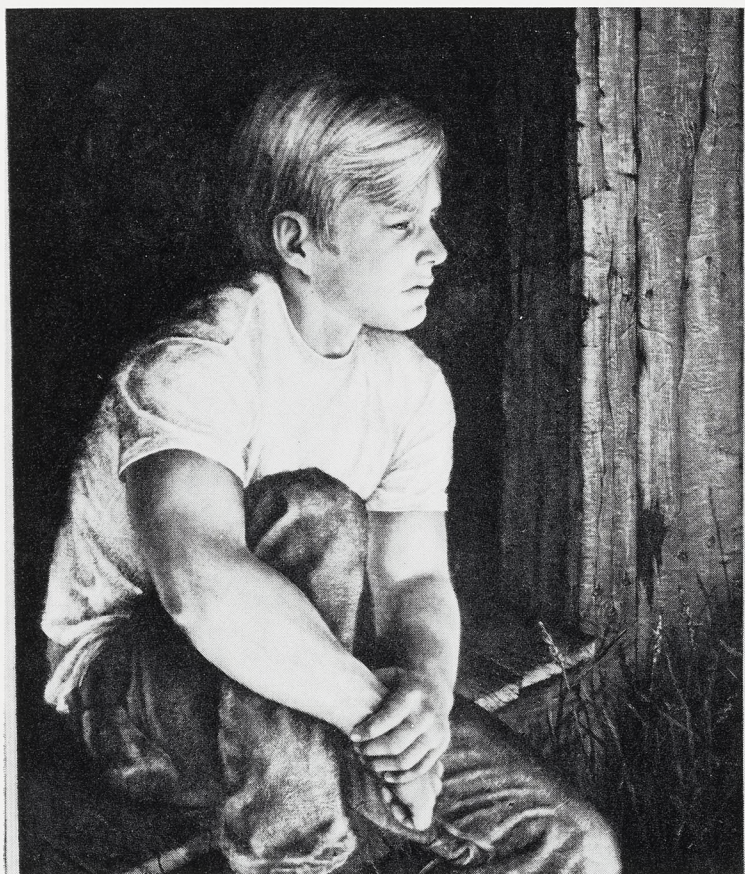
But Bob Mack, a Graphics artist at Anaheim, hasn't always been an artist. Earlier, he worked on an automobile assembly line with no hope for self-expression. Three semesters of advertising art at Los Angeles Art Center cured that. Bob has been in Nortronics Graphic Arts since 1965.

His painting titled "Robin" is of Bob's 9-year-old daughter. It won first place at a Roland Heights show in April, and second place at Pico Rivera in February. His work titled "Joe" won the "most popular painting of the show" award in April at Downey.

Bob, his wife, JoAnne, and Robin, Eric, Lisa and Steven, their four children, live in Covina.



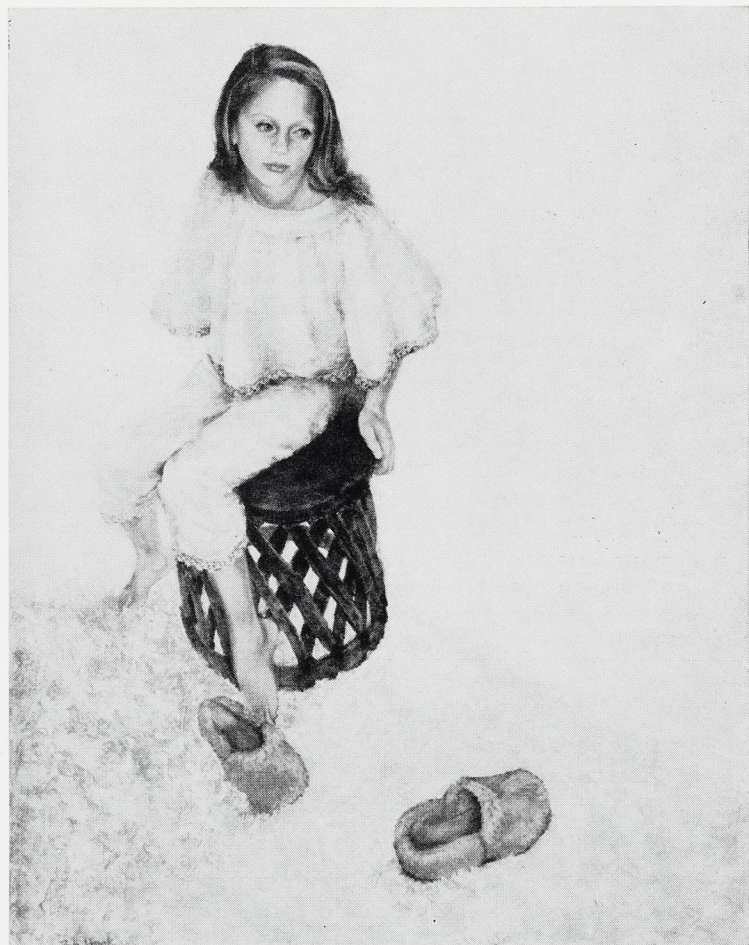
'At The Waiting Gate'



'Joe'



ROBERT MACK: "Painting, to me, is like reading a good book. It is an enjoyable experience throughout, and when I'm finished, I'm sorry it has ended."



'Robin'



A QUARTER-CENTURY—John Oliver (left) smiles while talking with Northrop President Thomas V. Jones, after Mr. Jones presented him his 25-year pin. Mr. Oliver is Northrop's administrator of Product Licensing.

### IT'S A FACT AT NORTHROP

## U.S. Underseas—A Leader in its Field

Northrop Corporation's involvement in virtually the full spectrum of global communications includes the old but ever-growing technology of submarine cable laying and manufacture.

U.S. Underseas Cable Corporation, with headquarters in Washington, D.C., is a Northrop affiliate and one of the world's leaders in communications cable work.

One of USUCC's prime facilities is the 12,000-ton *Neptun*, commissioned in 1962 as the largest-capacity cable ship ever built.

The *Neptun's* first job was laying the 1,700-mile cable from Iceland to Canada, and the ship

has the capacity to lay a telephone cable from Europe to the United States in a single operation—a feat never before possible with one ship.

Some of the Underseas Cable's outstanding technical achievements include:

First trans-Atlantic telephone cable (Scotland to Newfoundland).

California-Hawaii telephone cable.

A cable serving communications and telemetry along the chain of islands down the Atlantic Missile Range.

Completion in record time of a

740-mile multi-channel telephone cable from South Vietnam to the Philippines, a vital link in the trans-Pacific military communications network.

At the present time, a telephone call theoretically could be made by cable and land facilities from Washington, D.C. to the east coast of Siberia, but not across the Sea of Japan.

U. S. Underseas Cable now is serving as prime contractor to lay a 450-mile cable linking Russia and Japan.

When that project is complete (scheduled for May 1969) telephone facilities by cable will completely circle the globe.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale	
Triumph, 1963 TR3 roadster, tonneau cover, top, new 4-ply nylon tires, \$1,150. 213-831-6560.	A
Dart, 1964 GT, 4-spd. floor shift, r/h, \$1,100. 213-372-5367.	A
Dodge, 1963 Dart, r/h, a/c, \$800. 213-422-8093.	A
Pickup Truck, 1965 Ford V-8, 1/2-ton, hvy. duty tires & o/load springs, \$1,250. 213-376-5553.	A
Corvette, 1965 Sting Ray, fuel injection, mag wheels, extras, new tires, \$3,100. 213-374-2756.	A
Chevrolet, 1964 Impala, 2-dr. h/top, p/s, p/b, r/h, new w/s/w tires, \$1,395. 213-324-8747.	A
Volkswagen, 1963, 32,000 miles, \$950. 213-375-3339.	A
T-Bird, 1963, full power, air, \$1,195. 213-675-7740.	A
Chevelle, 1967 Super Sport, 396 cu. in., 350 h.p., 17,000 miles, mag whls., \$2,600. 213-838-0532.	A
Ford, 1932 3-window cpe., new rebilt. Olds eng., hydromatic trans., \$450. 213-892-7972.	A
Pontiac, 1965 Le Mans, h/top, 326 eng., p/s, AM-FM radio, 5 new tires, auto. trans., \$1,875. 213-329-1202.	A
Chevelle, 1965 Malibu S.S., 327, 4-spd., \$1,700. 213-292-6332.	A
Pickup Truck, 1965 Chevrolet, 6-cyl., 3-spd. trans., long bed, \$175. 213-542-3626.	A
Ford, 1966 Galaxy, 390-4V, full power, disc brakes, stereo tape, \$2,250. 213-675-3050.	A
Chevrolet, 1967 El Camino, 14,000 miles, 327 cu. in., 275 h.p., p/s, auto. trans., V-8, E-Z lift hitch attach., \$2,250. 213-672-8468.	A
Triumph, 1965 TR-4, r/h, wire whls., tonneau, \$1,750. 213-676-0485.	A
Station Wagon, 1961 Chevrolet, stick, 6-cyl., \$475. 213-379-2326.	A
Volkswagen, 1964, 2-dr., \$1,050. 213-644-3024.	A
Firebird 400, 1967, 4-spd., 411-positraction, lsky cam, stereo tape, w/4 speakers, mag. whls., disc brakes, \$3,200. 213-695-2678.	A
Volkswagen, 1956, 4000 miles, new tires, recently o/hauled trans., \$350. 213-676-1018.	A
Cad-Allard, 1953 K-3 roadster, all orig. road equip., \$1,200. 213-398-5019.	A
Plymouth, 1964 Valiant 200, 2-dr. sedan, 6-cyl., auto. trans., r/h, \$975. 213-347-5940.	A
Truck, 1959 Ford, 1/2-ton, 8' bed, o/drive, 6-cyl., \$595. 213-378-2193.	A
Oldsmobile, 1956 2-dr. h/top, \$500. 213-373-1618.	A
Dodge, 1964 Dart, 4-spd., 33,000 miles, \$995. 213-831-6878.	A
Triumph, 1966 TR6, 650 cc, many extras, \$850. 213-433-5543.	A
Corvette, 1967 fastback, posit. rearend, r/h, 327 w/300 h.p. eng., \$3,600. 213-679-7840.	A
Volkswagen, 1961 2-dr. sedan, new tires, \$675. 213-378-6675.	A
Camper, 1965 Volkswagen, awning w/sides, stove, ice box, water tank, louvered windows, \$1,895. 714-962-1805.	A
Cadillac, 1961 Fleetwood, p/b, p/s, p/w, fact. air, \$795. 213-353-9337.	A
Buick, 1965 Skylark Gran Sport, p/s, p/b, fact. air, 4-spd. stick, \$1,495. 213-423-5844.	A
Pickup Truck, 1966 Ford, 3/4-ton, less than 20,000 miles, big 6, 4-spd., \$1,625. 213-864-0614.	A
Sprite, 1960, H-production ext., 1100 head, cam, \$600. 213-635-3824.	A
Falcon, 1963 Futura, auto. trans., r/h, 2-dr. h/top, 6-cyl., \$550. 213-375-9397, 213-375-2091.	A
Pontiac, 1966, p/s, p/b, 421, \$2,195. 213-697-3769.	A
Shelby GT 500, 1967, 428 cu. in. Le Mans eng., auto, p/b, p/s, \$3,600. 213-675-1365.	A
Pontiac, 1959, new front end, \$350. 213-433-8176.	A
Volkswagen, 1965, low miles, good tires, \$1,100. 213-293-5827.	A
Corvette, 1953 fastback, AM-FM radio, 327 hi-performance eng., 4-spd. Hurst, \$2,250. 213-564-8841.	A
Chevrolet, 1964 Bel Air 8, 4-dr., r/h, auto. trans., 40,000 miles, \$975. 213-324-8979.	A
Station Wagon, 1965 Volvo, 4-spd., r/h, \$1,850. 213-374-8358.	A
Chrysler, 1960, p/s, p/b, p/seats, \$150. 213-672-4486.	A
Pontiac, 1963 LeMans, 326 V-8 eng., auto. trans., r/h, p/s, near new tires, \$875. 213-679-0918.	A
Station Wagon, 1965 Pontiac Bonneville, complete power, a/c, many extras, \$2,300. 213-361-1097.	A
Volkswagen, 1963, r/h, needs muffler, \$872.50. 714-524-0889.	A

Automobiles For Sale	
Cadillac, 1963 Fleetwood 60 Special, full power, air, fact. cast. alum. wire whls. w/30,000 mile guarantee on tires, \$1,995. 213-541-1321.	A
Mustang, 1967, V-8, auto. trans., p/s, r/h, \$2,650. 213-676-5846.	A
Station Wagon, 1961 Oldsmobile Super 88, 9-pass., r/h, \$650. 213-672-5798.	A
Volkswagen, 1960, \$550. 213-478-6959.	A
Dodge, 1964 Custom 880, 4-dr., 383 V-8 eng., fact. air, auto. trans., AM-FM radio, extras, \$895. 213-673-4698.	A
Rambler, 1959, 4-dr. sedan, 6-cyl., stick shift, \$275. 213-644-2885.	A
Household Items For Sale	
Floor Lamp, 3-way, turned Salem maple, \$10. 213-675-5522.	B
Crib, blonde, \$12.50. 213-679-8550.	B
Bunk Beds, metal frames, wood trim, mattresses & ladder, \$25. 213-376-4831.	B
Bedroom Set, \$15. 213-323-6637.	B
Converti-Bed, \$25. 213-675-1860.	B
Wardrobe, child's, white, pink handles, \$30. 213-326-1876.	B
Breakfast Nook, L-shape, gray, center pedestal table & elec. outlet, \$50. 213-692-6336.	B
Rug, 9x9, brown & white tweed, w/pad, \$35. 213-644-3116.	B
Refrigerator, 15 cu. ft., Frigidaire, 90 lb. freezer compartment, \$75. 213-377-5322.	B
Rug, 8', round, wool multicolor reversible, \$45. 213-323-4855.	B
Washer, auto., deluxe Kenmore, 2-spd., recently o/hauled, \$50. 213-363-6617.	B
Range, Wedgewood, gas, w/rotisserie, \$50. 213-377-7317.	B
Range, Frigidaire, elec., 2 yrs. old, \$80. 213-862-6193.	B
Washer & Dryer, Kenmore, both 1 cycle, white enamel, \$50 ea. or \$75 both. 213-398-8613.	B
Dinette Table & 4 chairs, \$15. 213-375-8804.	B
Range, Kenmore, 4-burner w/griddle, lge. oven, broiler, \$40. 213-836-1142.	B
Washer-Dryer combination, Norge, needs minor repair, \$10. 213-374-2915.	B
Commodore, solid birch, 1 octagon, 1 rectangular, 6 mos. old, \$40 ea. 714-875-8495.	B
Chest, maple, needs refinishing, 5-dwr., \$25. 213-479-6127.	B
Washing Machine, Kenmore, 8-cycle, \$100. 213-675-8068.	B
China, Royal M, fragrance pattern, 85 pcs., \$35. 213-679-6982.	B
Tables, Salem maple, step end, 2, coffee & drum table, \$10 ea. or \$35. 213-675-8813.	B
Refrigerator, Norge, 19 cu. ft., copper-tone, 200 lb. freezer capacity, \$195. 213-756-4702.	B
Sofa, 9', 2 matching chairs, Mediterranean, olive & white floral, \$329. 213-676-2141.	B
Bed, dble., mattress, springs & frame, other household items, \$50. 213-677-3471.	B
Coffee Table, round, w/2 end tables, Italian modern, other items, \$85. 213-673-1253.	B
Range, 36" O'Keefe & Merritt Deluxe, \$50. 213-375-5097.	B
Miscellaneous For Sale	
Motorcycle Trailer, carries 3 motorcycles, \$125. 714-638-4014.	C
Cemetery Lot, dble. interment, Inglewood Rest Haven, \$700. 714-521-5258.	C
Fan, 20" roll-about, chrome stand, alum. blade, \$15. 213-320-3529.	C
Motorcycle, 1966 B.S.A., \$850. 213-324-2942.	C
Wiglet, chestnut brown, human import hair, worn twice, \$30. 213-320-6685.	C
Water Ski Blanks, cut, shaped, formed & varnished, various styles, \$5. ea. 213-630-4188.	C
Micrometer, Starret and Craftsman, 1-2, \$12. 805-498-3549.	C
Jig Saw, 18" throat, on rollaway stand, 1/4 h.p. motor, \$35. 714-827-9356.	C
Lathe, Craftsman Atlas, 36", metal turning w/10" swing, extras, \$750. 213-865-5084.	C
Carry-All Rack for 1965 Chevrolet, 1/2-ton pickup truck, custom blt., tubular steel, \$50. 213-370-7092.	C
Stew Pot, elec., w/attachment thermostat, \$5. 213-644-3084.	C
Lawn Edger, Silex, elec., extra blades, \$5. 213-423-4837.	C
Home, 3-bdrm., transferable 6% loan, covered patio, cpts., remodeled kitchen, near schools & shopping, \$24,300. 213-374-2837.	C
Bicycle, girls 24", \$15. 213-532-7717.	C
Poodle, toy, black female, papers, 9 mos. old, trained, 7" high, \$65. 213-671-8105.	C
Ski Boat, 14' Tempest 150, all glass, 75 h.p. Evinrude, Wallstrong trailer, 6-gal. gas tanks, \$1,500. 213-545-2463.	C
Instrument Rating Course, Jeppesen, latest edition, \$30. 714-847-2648.	C
Boat, 1963 Glasspar, 16' Avalon, Mercury 850, American tilt trailer, all access., \$1,600. 213-521-1700.	C
TV & radio comb., Emerson, 8" portable, \$50. 213-379-3134.	C
Guitar, Fender Mustang, elec., \$100. 213-679-4245.	C
Mower, one-hand, 20", \$5. 213-675-9530.	C
Motorcycle, Honda 90, 126 miles, \$320. 213-327-1949.	C
Wig, European human hair, shoulder length, strawberry blonde, inc. stand, \$100. 213-675-5963.	C

Miscellaneous For Sale	
Ski Boat, 16' inboard, glass o/wood, rebilt. flathead eng., 15' wheel trailer, \$500. 213-320-3014.	C
Lot, 25'x100', Big Bear City, level, trees, utilities avail., \$1,450. 213-598-3072.	C
Sailboat, 11' centerboard, extras, \$355. 213-325-4094.	C
House, 3-bdrm., family rm., fireplace, bltins, cpts., dps., walk to Northrop, \$23,500. 213-676-6463.	C
Ski Boat, 14', 40 h.p. Mercury motor & trailer, all ski equipment, \$650. 213-673-2559.	C
Acreage, 20 acres, north of Willow Springs, \$500 dn., \$45 mo., \$5,000. 805-947-6900.	C
Camera, Agfa 35mm f/2.8, auto. light meter, \$25. 213-672-7424.	C
Power Mower, radial, grass catcher, 4-cycle Briggs & Stratton eng., \$45. 213-325-8478.	C
Record Player, stereo & AM-FM radio console, 6 speakers, oiled walnut cabinet, \$140. 213-541-1517.	C
Partnership in Cal-25 sloop, \$2,500. 213-670-3758.	C
Tent Trailer, Tartan, sleeps 6, \$300. 213-757-1948.	C
Lot, 1/2-acre, Apple Valley, electricity, water & gas, \$150 dn., \$25 mo., \$1,995. 213-328-7048.	C
Porch Railing, ornamental w/center post, 15', \$35. 213-293-5993.	C
Surfboard, 10' Rick, 3 stick, \$87. 213-372-5183.	C
Camera, Nikon 35mm S.L. reflex, 5 lenses & 3 cases, \$700. 805-942-5306.	C
Ski Boat, 12'6", fiberglass o/wood, 40 h.p. Mercury eng., Heco trailer, \$400. 714-828-8439.	C
Wedding Ring, matched set, white & yellow gold, 3 diamonds in each ring, \$100. 213-323-2643.	C
Home, 3-bdrm., 1 1/2 baths, bltins, cpts., dble. gar., fenced yd., assume 5 1/4% loan, \$22,900. 213-865-7770.	C
Sailboat, 28' sloop, sleeps 4, inbd. eng., main, jib, genoa & spinnaker, \$5,000. 213-378-4352.	C
Window Sash, wood & frame, single light 3'6" w x 2' h., hinged at top, \$5 ea. 213-375-5838.	C
House, 5-bdrm., 3 baths, tri-level, lge. fam. rm. w/wet bar, living rm. w/fireplace, elec. kitchen, d/washer, \$48,000. 213-325-8913.	C
Slip Lot, Salton Sea, roads & utilities in, south side of sea in Riviera Keys, near yacht club, \$7,100. 714-535-1694.	C
Honda, 1966 Superhawk, 305 cc, many extras, \$450. 213-372-0313.	C
Rack, for bench press, & 300 lbs. of weights, dumbbells, \$30. 213-377-2160.	C
Wig, lt. brown, European human hair, shoulder length, silk cap, stand & case, \$100. 213-670-6123.	C
House, 3-bdrm. & den, covered patio, 1 1/2 bath, complete bltin kitchen, indoor bar-b-que grill, many other extras, \$27,500. 213-675-6430.	C
Home, 4-bdrm., 2 full baths, lge. fenced yard, 2-car gar., repainted inside & out, near Garden Grove Fwy., low down, \$21,995. 213-676-4203, 213-581-5208, 714-839-1053.	C
Surfboard, Weber Performer, 9' 10", \$120. 213-831-9402.	C
Model Railroad Equipment, misc. cars, track bed, switch sets, H.O. gauge, \$7. 213-375-4574.	C
Home, 3-bdrm., 2 baths, view, lge. fam. rm. w/fireplace, beam ceilings, wood paneled den, bltins, patio, Rolling Hills Ests., \$41,900. 213-373-3142.	C
Lawnmower, Sears Craftsman, rotary, 20", 3 h.p., spring start, \$35. 213-375-7038.	C

Miscellaneous For Sale	
Lot, R-2, Big Bear, approx. 75' x 130', near golf course & ski area, will finance, 10% dn., \$4,900. 213-377-3888.	C
TV, color, portable, G.E., in unopened carton, \$199. 213-625-8211.	C
House, 4-bdrm., block wall, enc. patio, bltin barbecue, elec. kitchen, cpts., fireplace, sprinklers, \$28,000. 213-320-6975.	C
Poodles, mini-toy, AKC registered, shots, 2 1/2 mos. old, \$45. 213-375-5885.	C
Acreage, 5 acres in Antelope Valley near Willow Springs, \$35 dn., \$35 mo. inc. 6% interest, \$3,500. 213-378-1026.	C
Pool Table, 4'x8', \$85. 213-371-8929.	C
Lawnmower, rotary 2 1/2 h.p., \$25. Box 1201.	C
Binoculars, Leitz Trinovid, 10 x 40, w/hard leather case, \$195. 213-379-3487.	C
Beer Bar, Tap King, spare 7 1/2 gal. keg & cleaning kit, \$125. 213-675-8617.	C
Acreage, Lake Los Angeles, 1 acre, \$995 & take over \$40 mo. pymts., \$4,700. 805-526-7767.	C
TV, 21" table model, b&w, \$50. 213-326-6195.	C
Motorcycle, 1966 Yamaha YDS-3, 250 cc, \$400. 213-323-7544.	C
Honda, 1965 CB-177, 305 cc, \$350. 213-547-4689.	C
Camera, Mamiya C-3, 105 mm lens, case & shade, \$90. 213-596-9819.	C
Home, 3-bdrm., 2 baths, den, h/wood floors, 2-car gar., patio, cinder block fence, stucco, 10% down to assume existing loan, \$21,995. 213-671-8401.	C
Boat-Trailer, 4-whl., tubular steel, \$180. 213-831-9545.	C
Bicycle, girl's 24", \$10. 213-328-3306.	C
Home, 4-bdrm., 2 baths, family rm., covered patio, water softener, Dominguez Hills, 20 min. from Hawthorne, vets no dn., \$26,000. 213-639-6499.	C
Photo Enlarger Eclipse w/tanks, trays, easels, \$35. 213-789-5791.	C
Heads, for 260 Ford, rebuilt, \$30. 213-679-9648.	C
Tires, 5 tubeless, 7-17.5, 6-ply, mounted on 6 lug drop center rims, \$30. 213-675-0521.	C
Cabin Cruiser, 17', 110 h.p. Mercury, \$1,900. 213-375-0351.	C
Camera, Minolta SRT-101 single lens reflex, w/behind lens meter, microprism focusing, interchangeable f/1.7 lens, case, lens hood, used 4 times, \$165. 213-376-4473.	C
Lens, wide angle Rokkor Minolta, 35mm, f/2.8, auto. diaphragm, meter-coupled to SRT-101, case, used once, \$70. 213-477-7741.	C
Ski Kite, Banta std., complete w/salom conversion, \$150. 213-343-8665.	C
Wanted to Buy	
Carrier, for surfboard, Aloha, clamp type. 213-675-6660.	D
Trailer, tandem for 23' cruiser. 213-670-7183.	D
Jeep, 4-wheel drive. 213-370-7749.	D
Bicycle, ladies 26", reasonable. 213-677-9333.	D
Power Mower, reel-type. 213-377-8867.	D
Rear End & stick trans. for Chevrolet, 1955 to 1960. 213-329-4200.	D
Flute, C. 213-651-0445.	D
Guitar Amplifier, bass. 213-329-9042.	D
For Trade	
Dryer, elec., 220 volts, lge. capacity, trade for gas dryer, Kenmore. 213-759-5053.	E
Free (To Be Given Away)	
Pigeons, mated or singles. 213-325-3452.	F
Palm Tree, smali. 213-370-6400.	F
Dog, female spayed beagle & terrier mix, 1 yr. old, has all shots. 213-325-2292.	F

Rides and Riders	
Rides Wanted	
7 a.m. — 3:42 p.m.	
Crenshaw Blvd. & Lomita Blvd., Lomita. T. Thompson, Norair ext. 1963, 213-534-3602.	
Caffey & 7th, San Pedro. Alternate weeks. Maurice David, Nort. Haw. ext. 830, 213-831-9500.	
8 a.m. — 4:45 p.m.	
Tampa Ave. & Victory Blvd., Reseda. Can meet at Ventura Fwy. William Buffington, Norair ext. 2498, 213-344-8896.	
Rides Offered	
8 a.m. — 4:45 p.m.	
Tampa Ave. & Victory Blvd., Reseda. Can meet at Ventura Fwy. William Buffington, Norair ext. 2498, 213-344-8896.	
Rentals Offered	
Trailer, on beach, 18 miles below Ensenada, Mexico, sleeps 5, \$45. wk. 213-255-6625.	G
Apt, 1-bdrm., bltins, \$80 mo. 213-329-8063.	G
Cottage, Ocean Beach, San Diego, near Mission Bay Park, \$65 wk. 714-826-2007.	G
Cabin, Green Valley, \$25 w/end; \$45 wk. 213-324-0649.	G
Apt, small, on Catalina Island, bicycles to use, walk to beach, 2 adults, \$65 wk.; 2 adults & 2 children, \$80 wk. 213-323-0526.	G
Apt, 2-bdrm., pool & patio, closed gar., near El Camino, adults, furn., \$170; unfurn. \$140. 213-329-5986.	G
Bachelor Apt, furn., bltins, closed gar., \$100. 213-328-9199.	G
House, 2-bdrm., over gar., gar. not inc., \$110. 213-328-2932.	G
Cabin, Green Valley Lake, \$35 w/end; \$55 wk. 213-320-2002.	G
Cabin, A-Frame, furn., sleeps 5, 40 miles west of Colorado Springs, close to stream & lakes, \$70 wk. 213-894-1937.	G
Cabin, Lake Arrowhead, modern, 200 feet from lake, north shore, \$100 wk. 213-375-2255.	G
Bachelor Apt, utilities inc., close to Northrop, \$75 mo. 213-679-8394.	G
Cabins, Idyllwild, 1 & 2 bdrms., fireplace, stream, patios, \$50-\$90 wk. 213-754-5288.	G
Rentals Wanted	
House, 2-bdrm., unfurn. except stove & refrigerator, in Kirkwood area of Laurel Canyon, up to \$200 mo. 213-322-2332.	H

Child Care	
Child Care offered, my home, ages 3 to 6 yrs., \$15. wk. 213-325-7351.	I
Personals	
General cleaning lady needed immediately, one day a week, some ironing. 213-532-7663.	
I wish to express my sincere thanks for the kind thoughts & deeds extended to me at the time of the death of my mother, Mrs. Emma Elizabeth Patta. GERALDINE O'MALLEY.	
For Sale or Trade	
Motorcycle, Honda 150, \$350 or trade for pickup truck. 213-325-3724.	M
Station Wagon, 1960 Ford, 6-cyl., stick shift, \$200 or trade for boat or motorcycle. 213-325-7605.	M
Surfboard, 10' Jacobs \$60 or trade for board of less value as part payment. 213-373-2891.	M
Buick, 1966, \$1,650 or trade for pickup. 714-774-0950.	M
Camper-Van, 1967 Chevrolet, V-8, std. trans., fact. installed camper unit, \$2,900 or trade for car. 213-672-4231.	M
Mustang, 1965, 271 hi-performance, 4-spd., rally pack, GT kit, 34,000 mi., \$1,880 or trade for station wagon or sedan, compact preferred. 213-833-4198.	M



GOOD CITIZENSHIP COMMITTEE—Members of the California Good Citizenship Committee meet to plan the participation of industry in the program. Seated (from left) are Charles Soderstrom, chairman of the Los Angeles County Republican Central Committee; Roy

Marquardt, chairman; and Norbert A. Schlei, Democratic official. Standing (from left) are Frank Smith, Northrop director of Industrial Relations; Douglas Wood; Albert C. Meyer; K. Warren Snider; and Edmund G. Ducommun. See story on page 1.



## Management Development Administrator Appointed

Frank E. Lund, a veteran of 15 years in employee relations and related fields, joined Northrop Ventura this month as administrator of Management Development.



Mr. Lund

Mr. Lund will report to Rex Fairless, director of Industrial Relations, and will be responsible for coordinating Northrop Ventura's Management Resource Program with that of the Corporate office.

Before joining Ventura on June 3, Mr. Lund was personnel manager of the international division of the A. B. Dick Company in Chicago.

He also has worked with Thiokol Chemical Corporation in industrial relations and personnel activities, and Chas. Pfizer and Co., as regional personnel manager for 15 midwestern states.

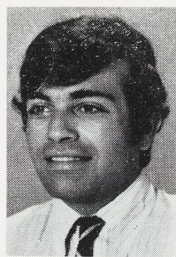
Mr. Lund, who was born in Ogden, Utah, graduated from Utah State University in 1955, earning a bachelor of science degree

in business administration. He received his master of business administration degree in 1964, in industrial management.

He and his wife, Marilyn, have two sons and one daughter.

## NV Engineer To Instruct Fluids Class

A four-unit graduate level course, "A Continuum Mechanical Approach to Viscous Fluids," Course X481.6, will begin at Agoura High School next week, taught by Bejan Khajeh-Nouri, a Northrop Ventura senior engineer.



Mr. Khajeh-Nouri

Khajeh-Nouri said.

"We believe the course will be of interest to mathematicians, stress analysts and aerodynamicists," he said. "The prerequisite is knowledge of differential equations."

Mr. Khajeh-Nouri, who has taught at Pennsylvania State University and Carnegie Institute of Technology, is a senior engineer in the Fluid Mechanics branch.

He received his bachelor of science degree in 1962 from Carnegie Tech in physics and mechanical engineering. A year later, he received his master's degree in aerospace and physics from Penn State.

Tuition is \$50. Applications may be obtained by contacting the Northrop Ventura Fluid Mechanics branch, ext. 1090, or by writing to the Engineer/Physical Science Extension, 6266 Boelter Hall, UCLA, Los Angeles 90024.

The class, part of the UCLA Extension division, will begin at 7 p.m. next Monday, and will meet on Mondays and Thursdays for eight weeks. Mr.



**LOST AND FOUND**—Leonard Woehler, a senior engineer at Northrop Ventura, meets with Mrs. Kim Nance of Newbury Park. Mrs. Nance recently left an envelope containing \$700 in a Newbury Park bank. Mr. Woehler found the money, notified the bank manager, and arranged for the return of the money to Mrs. Nance. She had been saving to bring her sister to the United States from Korea.

### 'LOST AND FOUND'

## Employee Finds \$700

When Kim Nance discovered she had left \$700 on a counter in the bank, she figured the money was gone forever.

Mrs. Nance, of Newbury Park, had been saving the money to bring her sister to the United States from their native city of Seoul, Korea.

Fortunately, the money was found by Leonard Woehler, a senior engineer in Northrop Ventura's Field Test branch.

"There was \$320 in cash, and the rest in endorsed checks," Mr. Woehler said. "It was in a plain white envelope, lying on the counter where you fill out your deposit slips. I gave the manager my name and telephone number, and told him to have the owner call me."

Mrs. Nance had accidentally left the money in the bank at noon. At 4:30, she called Mr. Woehler.

"I met her at the bank, and

gave her the money," Mr. Woehler later said. "She told me later that she had been saving to bring her sister over from Korea."

Mrs. Nance is an assembler for an electronics company in Newbury Park.

Mr. Woehler has been with Northrop Ventura since April.

### APOLLO

(Continued from page 1)

Northrop Ventura's Apollo project team will appreciate Astronaut Eisele's sympathy to the problem of increased weight of the spacecraft since last year's tragic fire in Apollo 1.

"At one time," he said at a news conference, "we (the astronauts) were arguing about how many aspirin to carry in the medical kit."

"I gave up an extra set of underwear," he added.

It was the fact that Apollo 7 weighs nearly 2,000 more pounds than Apollo 1 that necessitated redesign work in the parachute landing system.

### MR. JONES

(Continued from page 1)

will be about \$12.5 million this year, \$85 million in 1969 and more than \$190 million by 1970."

Mr. Jones predicted a growing market for Northrop communications systems, and forecasted rapid growth in sales in this field for the next five years. Communications and electronics, he said, are running close to \$200 million a year in current volume.

### MISS CONEJO

(Continued from page 1)

tend the University of California at Santa Barbara, with a major in art or music.

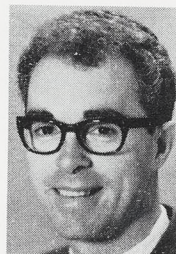
Both young women live in Thousand Oaks.

They were crowned at the Miss Conejo Valley Pageant, an annual event, sponsored by the Conejo Valley Junior Chamber of Commerce.

## Conejo Valley Jaycees Elect Fred Young

Fred Young, a senior budget analyst at Northrop Ventura, has been installed as president of the Conejo Valley Junior Chamber of Commerce.

Mr. Young, of Contracts Management Direct Budgets, will serve the Jaycees as president until next March. He was treasurer last year, and has been a member for nearly four years. He has been with Northrop Ventura for one and one-half years.



Mr. Young

As president of the 50-man chapter, he took an active part in planning the 1968 Miss Conejo Valley beauty pageant. He also has been active in the Conejo Valley YMCA and is a member of the board of directors of the Thousand Oaks Arts Association.

His wife, Lois, also was a member of the board of the arts group, and serves as social chairman of the Jaycettes, wives' auxiliary to the Jaycees. The couple has three children.

"We'd like to attract other Northrop Ventura men between 21 and 35," Mr. Young said. "If anyone is interested in improving himself through participation in community service projects, the Jaycees provide the opportunity to do so."

Additional information may be obtained by contacting Mr. Young at 495-6288.

## Achievers End Activities for School Year

The 1967-68 school year was apparently a bad market year for Christmas candles and automobile trunk tie-down springs.

Those two items were the products manufactured and sold by TOKO, the Junior Achievement firm counseled by Northrop Ventura employees during the past school year. The students represented Thousand Oaks and Newbury Park High Schools.

And for the first time in the history of Junior Achievement at Ventura, the "achievers" were forced to declare a loss; in this case, a deficit of 22 cents on the dollar. Stockholders who invested \$1 at the start of the school year received 78 cents this month when the firm liquidated.

"We just lost too many sales personnel to show a profit," Betsy Collier, TOKO president and a senior at Thousand Oaks High School, said.

TOKO sold 146 trunk tie-down springs at a cost of 95 cents each, and 83 Christmas candles, which cost \$1.43.

Serving his second year as coordinator-adviser was Chuck Taylor. Working with him were Doug Finch, sales adviser; Walt Knox, management adviser; and Bill Brooks, production adviser.



**MISS CONEJO VALLEY**—Elizabeth Henjum (left), Miss Conejo Valley for 1968, and Sandi Linebarier, third runner-up in the contest, talk with Fred Young, president of the Conejo Valley Junior Chamber of Commerce. Both Miss

Henjum and Miss Linebarier are the daughters of Northrop Ventura employees. Miss Henjum is a student at the University of California at Santa Barbara.



# NORTHROP NEWS

NORTHROP VENTURA

Published biweekly by Northrop Corporation, Beverly Hills, California

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July 3, 1968

## Swedish Navy Buys KD2R-5 Target Drone

Northrop Ventura is delivering this month an order of target drone aircraft to the Swedish Navy for surface-to-air missile training.

The sale and delivery of KD2R-5 propeller-driven drones

(See photo on page 6)

were announced by Stiles Burke, director of International Sales.

The Swedish contract calls for delivery of spare parts, ground equipment and a ground control station, in addition to the aircraft. The Swedish Navy has been using the drone since 1962, and it is expected that by next year the drones will be used on a Swedish training range serving both the Army and Air Force of the Scandinavian country.

Featuring a new increased horsepower propulsion unit, this KD2R-5 has a maximum speed of 220 knots, and a maximum altitude of 24,000 feet.

The new vehicles will be operated and maintained by Swedair, Ltd., an associate firm of Northrop Ventura in that country.

The drones will be used in training Navy men in the operation of Seacat, an anti-aircraft missile. Seacat is remotely guided by radio command link, operated by an aimer who directs the missile on an intercepting course.

The KD2R-5 is no stranger to the Seacat, a British development. During development of the missile, the British Navy used the KD2R-5 for missile evaluation purposes, and has used it since that time for anti-aircraft proficiency training.

Other countries which have adopted the Seacat into their inventories, such as The Netherlands, Brazil and Argentina, also are KD2R-5 users.



**FIRST DELIVERY** — Northrop Ventura officials meet with personnel of the U.S. Naval Missile Center at Pt. Mugu at the delivery of the first MQM-74A target. From left are Cmdr. Selden N. May, target officer for the Naval Mis-

sile Center; Capt. J. C. Stuart, deputy commander of the center; Hal Barber, Ventura test director; Ben Collins, program manager—Aeronautical Systems; and Jim Brochu, of Northrop Ventura Marketing.

## Reefing Line Cutters—Small but Important

As seems to be the case so often in advanced aerospace technology, one of the most critical components in the Apollo Earth Landing System is also one of the smallest.

Reefing line cutters (there are 18 on the main parachutes of the Apollo) are precision instruments of the approximate size and shape of a ball point pen or tire gauge.

The cutter, manufactured for Northrop Ventura by Ordeco, of North Hollywood, is a knife, enclosed within a cylinder, that severs the reefing lines which hold the skirts of the Apollo parachute canopies partially closed for a brief period after deployment. This is done to reduce initial

shock and stress on the chutes. A small powder charge within the cylinder explodes, propelling the knife through the nylon reefing line.

"The delay time accuracy is right at the state of the art," said Ed Barker, of Ventura's Quality Assurance organization. "The three parachutes must disreef simultaneously, so that each can support its share of the weight of the Apollo spacecraft. Ordeco has been able to cut this tolerance right to the state of the art for us."

In appreciation of Ordeco's achievement as an Apollo supplier, W. A. Steyer, Apollo program manager, and Mr. Barker

visited the firm, talking with employees and explaining the importance of the reefing line cutter to the program.

Similar visits will be made to other Apollo suppliers, to be certain the employees know where their product fits in the over-all Apollo picture.

"We want to involve our suppliers with Apollo," Mr. Barker said, "to let them know that they are an integral part of the nation's Apollo team."

The visits to suppliers will include question and answer sessions and the showing of a NASA-produced film which explains what Apollo must do to reach the moon.

## Navy Takes Delivery of MQM-74A's

The first two MQM-74A production model target drones were delivered to the U.S. Navy last week by the Northrop Ventura 7/11 Program team.

One of the new turbojet-powered vehicles went to the Navy's Weapons Laboratory at Dahlgren, Virginia, and the other went to the Navy Missile Center at Pt. Mugu.

The 7/11 Program team has been established by Northrop Ventura to identify individuals working on the MQM-74A program.

According to M. A. Maurer, vice president and manager of Production Operations:

"By dramatizing such identification, it is hoped that every one of us will do our jobs better, coordinate with others, eliminate constraints faster and, by such efforts, accomplish all of the required objectives."

Those objectives are to have the first 11 MQM-74A's completed and available for shipping before the end of July (the seventh month), hence, "7/11" Program.

John H. Wells, superintendent of the Target Production group, is 7/11 team captain.

Members of the 7/11 team wear a large round badge with the numerals 7/11 in blue on a white background. The badges of team leaders have a blue star on a white background with the numerals 7/11 in white on the star.

Participants in the 7/11 Program are from every line organization in the division, according to MQM-74A Program Director Bill Stowell.

"In addition to all the hard work which went into the design and production of the initial aircraft, there remain many development and qualification tests to be completed prior to the Navy accepting the MQM-74A for fleet use," Mr. Stowell said.

Initial targets delivered will be used for flight demonstration purposes. A 13-member Northrop Ventura flight demonstration team has taken over the target delivery.

(See MQM-74A, page 6)

## Senior Engineers To Coordinate Wescon Sessions

Two Northrop Ventura men will be serving as session coordinators during the Wescon 32-session technical program August 20 through 23 in Los Angeles. They are senior engineers Loris Malcolm and F. James Wynnoff.

Three sessions deal with technical management and marketing questions; four are devoted to electronics and law enforcement, education instrumentation, and urban affairs; two cover advances in digital systems; and others cover medical instrumentation, fluidics, utility power, computer controls, and advances in materials for electronics.



**VISIT TO ORDECO**—W. A. Steyer (left), Apollo program manager at Northrop Ventura, and Ed Barker (second from left) of Ventura Quality Assurance, meet with employees of Ordeco, a North Hollywood firm which manufactures reefing line cutters for the Ventura-built Apollo Earth Landing System.



**EXAMINING THE CUTTER**—Ed Barker (left) and John Simpson of Northrop Ventura Quality Assurance, examine an Apollo reefing line cutter in the Ventura Parolab, where the Apollo Earth Landing System is made. The cutter contains a knife, which severs the nylon lines.



## Five Air Force Cadets Study Research Field

Five Air Force Academy cadets are at work in the Northrop Corporate Laboratories as research assistants this summer in a unique program now in its fourth year.

The program allows first classmen, or seniors, and newly commissioned second lieutenants from the Academy to gain practical experience in research and an understanding of industrial and government research activities.

Northrop was the firm originally selected for this program, which presently includes only one other aerospace company.

Candidates are chosen on the basis of academic achievement.

Colonel David E. Galas, Northrop Air Force plant representative, briefed the five cadets yesterday on the missions and functions of his office and local military resources.

Following the six-week stay at Northrop, the participants are required to submit a paper to the Academy, presenting the results of their work. The cadets are therefore given a chance to make real contributions in their areas of interest.

Charles Clemmensen, a first-classman, is assigned to Dr. Charles Martell, director of the Life Sciences Laboratory. Donald Caughlin, a new second lieutenant, is working under Dr. Gerard Hasserjian, director of the Electromagnetics Lab.

Lieutenant Caughlin is the son of Mr. and Mrs. Donald Caughlin of Torrance. His father is a staff assistant at Nortronics Palos Verdes.

Warren Jaeger, a first classman, is also assigned to Dr. Martell; Allan Hunt, a first classman, who is working under Dr. Orlie Curtis, acting director of the Solid State Electronics Lab; and Maurice Edlund II, a second lieutenant, assigned to Dr. Yudi Gupta, director of the Materials Sciences Lab.

## Employee's Son Commissioned A.F. Lieutenant

Michael J. Sterling, a Northrop son and former Norair employee, has been commissioned a second lieutenant in the U.S. Air Force and assigned to Lowry AFB, Colorado, for training as an air intelligence officer.



Lt. Sterling

Lieutenant Sterling is the son of George Sterling, chief of Aircraft Demonstration Programs, Customer Relations, at Norair.

He worked summers at Norair in Graphic Operations and Advanced Program Integration Engineering while studying for his A.B. at Stanford University and his M.B.A. at UCLA.

George Sterling is a veteran of 26 years of Northrop service, a World War II Navy pilot and a former Norair flight test engineer.

## Summer Softball Teams Compete in 12 Leagues

Northrop summer softball activities are in full swing with 28 teams competing in 12 leagues at the major sites.

Norair has 16 teams playing in Los Angeles County leagues; Nortronics has 12 teams, six playing with Norair teams in the County leagues and six in an in-plant loop at the Anaheim Facility, and Ventura has one team competing in the Conejo Valley Recreation and Parks District "A" league.

Norair fields teams in regulation pitch softball with a 12-inch ball, slo-pitch with a 12-inch ball and slo-pitch with the 16-inch "pumpkin" ball.

The Talons (7-0), the Hawks (4-0), the Counts (6-1) and the Cavaliers (3-1) are in first place or tied for the top spot after the first round in regulation pitch 12-inch leagues.

Nortronics Hawthorne boasts the Rogues (5-0) who are league

leaders in slo-pitch 12-inch competition after the first round. The Supporters (4-1) are first in their slo-pitch 16-inch league.

Anaheim's NRC slo-pitch league is led by Montgomery's Marauders (3-0). Play in the in-plant loop is divided into two rounds with the 12-inch ball being used in the first round and the 16-inch ball in the second.

Perry Watson, Anaheim Security, won a distinction of sorts by raising his batting average to .043 with a hit after drawing blanks in 23 previous at-bats. For this feat, he was awarded a trophy by the league.

Ventura's team has not yet begun play in the Conejo Valley league which features regulation pitch 12-inch softball.

However, the Ventura team took third last year and Ventura Baseball Commissioner Dale Thompson thinks the prospects for another high finish are good.

## IT'S A FACT AT NORTHROP

Fortune Magazine's annual listing of the 500 largest U.S. industrial corporations for 1968 shows that Northrop has made a big leap forward in its relative rank with other big companies.

Northrop is now rated as the 181st largest U.S. industrial corporation in terms of 1967 sales. Last year Northrop was ranked as the 223rd largest company in terms of 1966 sales. Rankings are based on total annual sales. Northrop sales for fiscal year 1967 were \$469,448,000; for fiscal 1966, \$357,278,000.

It appears probable that Northrop will rank even higher next year, since this year's sales are running ahead of 1967.



A SUPERJET IS BORN—Workers at The Boeing Company's 747 assembly plant are dwarfed by size of Boeing 747 jetliner being assembled.

This is Section 42, one of three main fuselage sections built at Northrop Norair and shipped to Everett, Washington, for assembly.

## Students Tour Division

Northrop Norair was host last month to a group of 25 students from Jefferson High School for a plant tour and individual discussions with a select group of Norair employees.

The visit was arranged in conjunction with the Willowbrook Job Corporation, an organization dedicated to motivating Negro youngsters to attend college.

Following a visit to Norair's Personnel Development and Training facility where they viewed films and classes in progress,

the visitors toured the F-5/T-38 assembly line.

Joining the group at that point were Mayo Loving, Floyd Bogus, Carroll Hicks, Ray Henry, Bill Justice, Harold R. Washington, jr., Willard Hall and John Graham.

After lunch these individuals took small groups of the visitors back to their respective work areas to discuss with them their jobs, personal training, responsibilities and improved prospects for advancement.

## I. R. Director Named To Texas Judgeship

A director at Brown & Root-Northrop has been appointed the new Corporation Court Judge in El Lago, Texas.

William Kurz, director of Industrial Relations, will serve a one-year term.

His background for the position includes university level courses in labor law and business law.

Mr. Kurz's knowledge of court procedures extends into his position with Brown & Root-Northrop.

## THE TWO-PARTY SYSTEM

### Political Parties Protect Democracy

**Editor's Note — Following is the first of a series of articles designed to acquaint Northrop personnel with America's two-party political system; to encourage everyone to support his party and candidates, and then vote in the November elections.**

Most people in the world still live under the world's oldest form of political society—one man, or one group, rule.

Under this system, the tribal chieftain, the king, dictator or party secretary dictates what is "best" for his people. If the people happen not to like what he thinks is best, they have no recourse except revolt.

History is filled with examples of dictatorial or paternalistic rule. It is also sprinkled with examples of democracy, the noble experiments where the people were given, or took for themselves, the right to choose their leaders.

The American two-party system is one such noble experiment.

This experiment will succeed as long as people—all eligible people—exercise their right to choose candidates and vote for their government officials.

Conversely, the nation will quickly revert or descend to the paternalistic or "papa knows best" one-man rule if people get lazy or careless about their politics. If

they fail to take part in the political procedure, the party system atrophies and will die from lack of exercise.

We often forget that our country was not born with a two-party system. The Constitution did not make provision for political parties. George Washington was elected unanimously, both times. America then might well have settled into the habit of a paternalistic or "papa knows best" form of government, without opposition and with the consequent dangers of power and corruption.

Fortunately, although political parties did not exist in Washington's time, the Revolution with its Patriots (Whigs) and opposing Loyalists set the stage for our two-party system.

Political life as we know it today owes its origins to fundamental differences which developed inside Washington's cabinet between Thomas Jefferson and Alexander Hamilton. The Federalist party grew out of Hamilton's economic concepts. Jefferson built the original Republican party for the specific purpose of opposing Hamilton's views.

When Washington retired as our only non-partisan president, the Hamilton-Jefferson conflict emerged as two full-fledged po-

litical movements and the two-party system was born.

The Republicans of today are descendants of the original Federalists by way of the Whigs. Today's Democratic Party traces its lineage to the Jeffersonian Republicans. Some characteristics of the original division between the two movements still exist.

The first official convention of the Democratic Party was held in Baltimore in 1832 when Andrew Jackson was nominated for President. The first official nominating convention of the Republican Party, held in Philadelphia in 1856, selected John C. Fremont as its candidate. Before official conventions of the parties, nominees were selected in State legislative caucuses and irregular public meetings of the people.

Although numerous splinter parties have appeared in the history of American politics, virtually all of these vanished into limbo after only one election, primarily because the so-called "parties" were based upon transitory issues.

Other splinter parties will doubtless appear in the future, but it is a safe prediction that America's democracy will continue to be based essentially upon the two-party system.

NEXT — WHY TWO PARTIES?

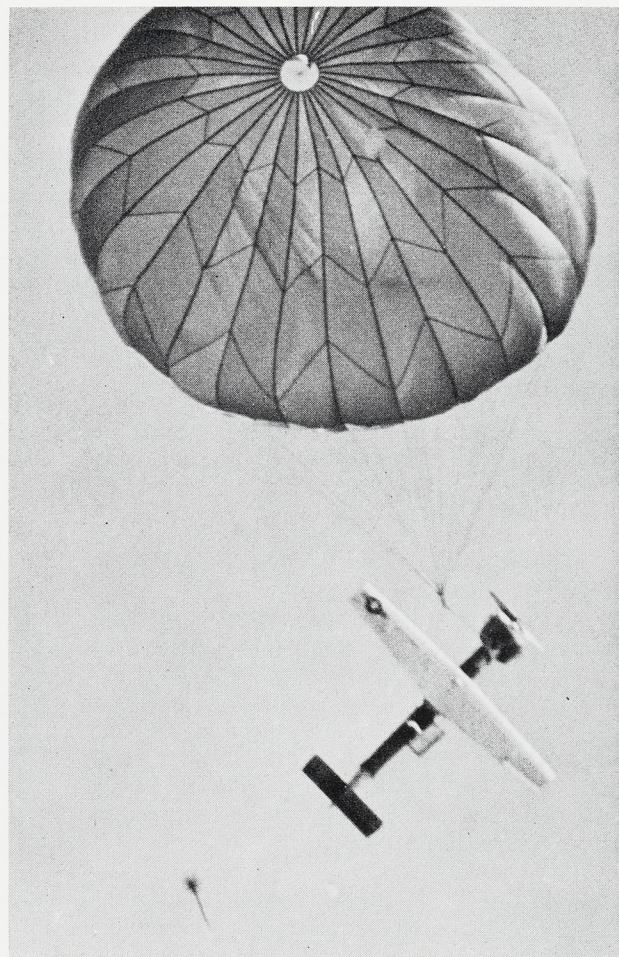
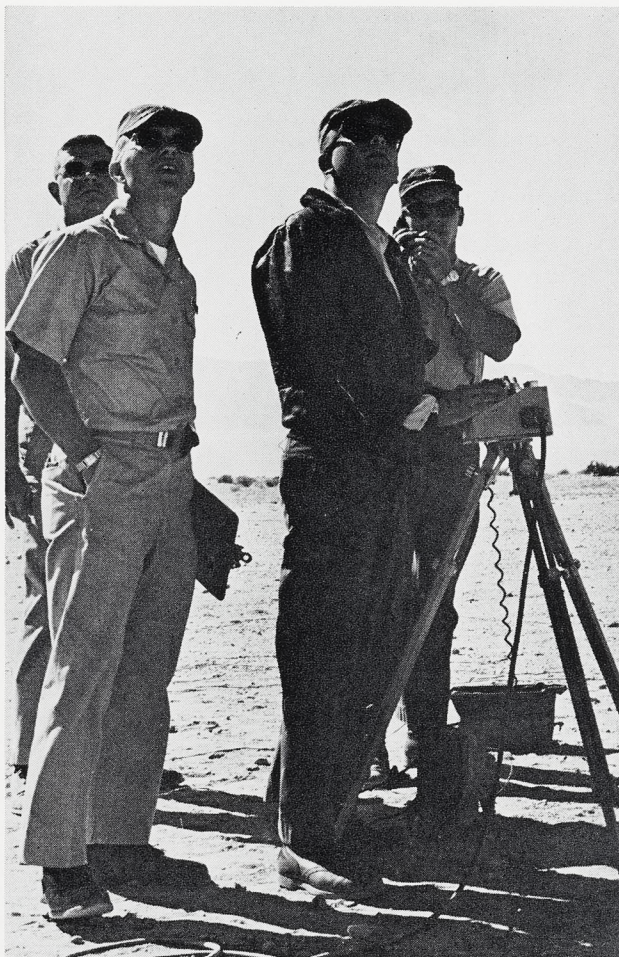
*"Wherever the real power in government lies, there is a danger of oppression. In our government, the real power lies in the majority of the community."*

— James Madison





KD2R-5 target drones are maintained and operated for Navy and Marine gunnery exercises in Southern California by the Navy's VC (Composite Squadron)-3 of North Island Naval Air Station, San Diego. Close-up of infra-red heat source attached to drone's wing is seen above as member of VC-3 target unit readies drone for launch. VC-3 controller and other target unit personnel (center photo) watch drone which has completed mission, descend under parachute (right photo). Below, marine trainee at Twenty-Nine Palms fires Redeye missile.



## TWENTY-NINE PALMS

# Where the Redeye Meets the KD2R-5

Aside from a versatile tree surgeon, a trip from Thousand Oaks to Twenty-Nine Palms could only be exciting to a target drone fancier.

Twenty-Nine Palms, near the heart of Southern California's Joshua Tree country, is the local home of "the world's smallest guided missile," the shoulder-launched Redeye.

Produced by General Dynamics' Pomona Division, the Redeye is a supersonic ball of fire which is aimed and fired like a bazooka. Everytime a Marine stands up and launches a Redeye, you want to run out and measure the crater in his chest. But the Marines, who are in their final week of basic training, walk away unscathed, and they very seldom miss their target.

Which brings us to the real hero of this story.

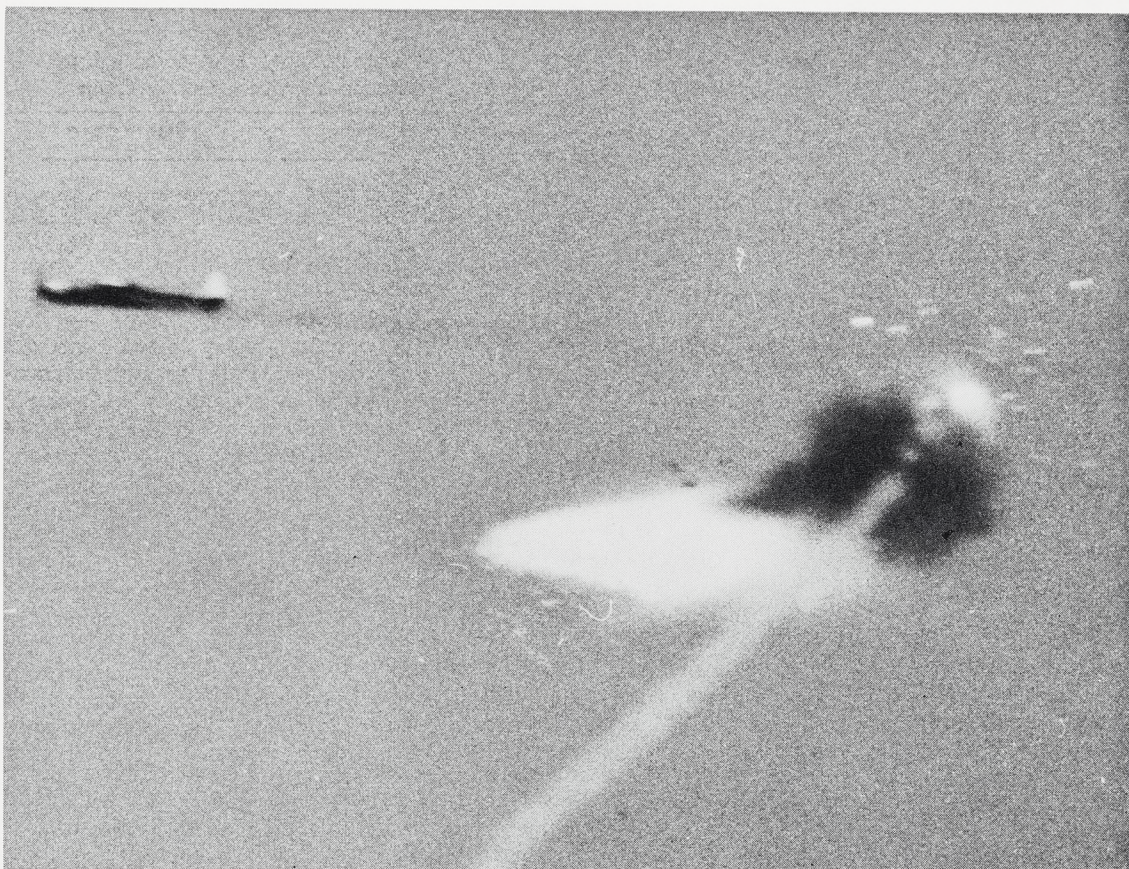
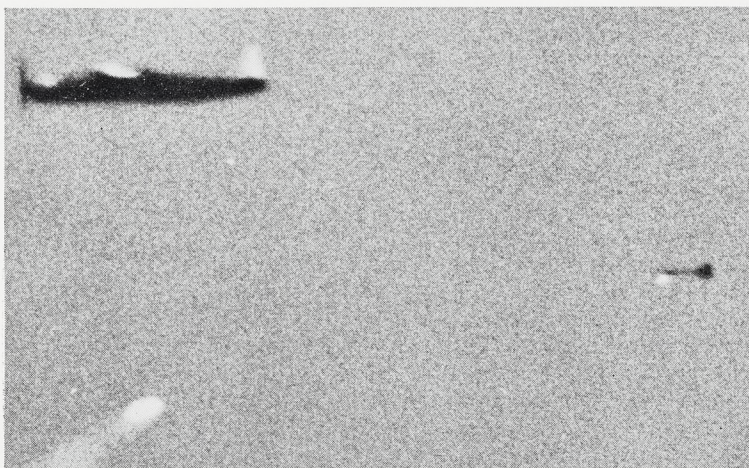
The KD2R-5 target drone, produced in the oak-studded Conejo Valley by Northrop Ventura, has been the standard, subsonic target for the military services for more than a decade.

Even flying at 175 knots (220 is top speed) over the desert Marine base, the KD2R-5 is a sitting duck for the heat-seeking Redeye.

But the craftsmanship which went into the target at Northrop Ventura is being preserved, thanks to an accessory, called a tow dart. The tow dart is an aerodynamically stable unit which carries an infra-red augmentation device. Four darts are attached to each drone and, upon electronic command from the drone's controller, are disconnected one at a time to trail behind the drone on a nylon cord.

The Redeye missile senses the heat crucible on the tow dart rather than the weaker heat source of the target drone's engine. (At Navy exercises, the KD2R-5 flies under the alias, MQM-36A.)

The result is realistic weapons training at a tremendous cost savings to the military. And it's not just the U.S. government that is saving money. At last count, the KD2R-5 had been exported to 18 other countries.



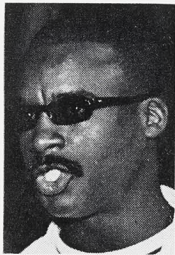
WHITE BALL in middle photo at left is rocket exhaust of Redeye missile streaking toward Northrop Ventura KD2R-5 target drone flying over U.S. Marine range near Twenty-Nine Palms.

Sensing tow dart, the Redeye bypasses drone and is stopped by Northrop photographer Wady Medawar at moment of impact with the tow dart.



## WHAT DO YOU THINK?

## Do You Believe 18-Year-Olds Should Be Allowed To Vote?



Mr. Coleman

**Terry Coleman, tool operator, Norair:**

Definitely, although I am over 21. I was in college at 16, and a lot of the debates were among young people under 21. They are very alive at that age. But they weren't allowed to voice their opinions. The candidates would come mainly to the college campuses and talk to the students, thereby keeping them well informed.

**Glen Hampton, spares requirement analyst, Nortronics Anaheim:**

No, I really don't. I don't believe that they have really developed a full foresight of what is coming in the future. They are only thinking of today—I'm not saying this of only 18-year olds, though. They are smart enough, but they haven't been around to see what is going on or has been established by bills or laws in the past. But you do find some young people more mature than some adults.



Mr. Hampton

**Linda Brood, Industrial Relations senior clerk, Nortronics Anaheim:**

I think so. I think they should be able to. You know pretty much what you think at that time. They talk about it more now in school. They are more informed — especially in the junior colleges now. The kids today are a lot more educated than they were before. I'm all for the idea that if you fight in Vietnam you should be able to vote. In some states you can vote at 18.



Mrs. Brood

**Gladys Sanford, electrical assembler, Nortronics Anaheim:**

I think if they are old enough to be drafted they are old enough to vote. If they can fight for their country they should have the right to vote for the leaders of it. They should have a word in the running of their country. Some boys do grow up in the service, but a lot of them are quite responsible citizens.



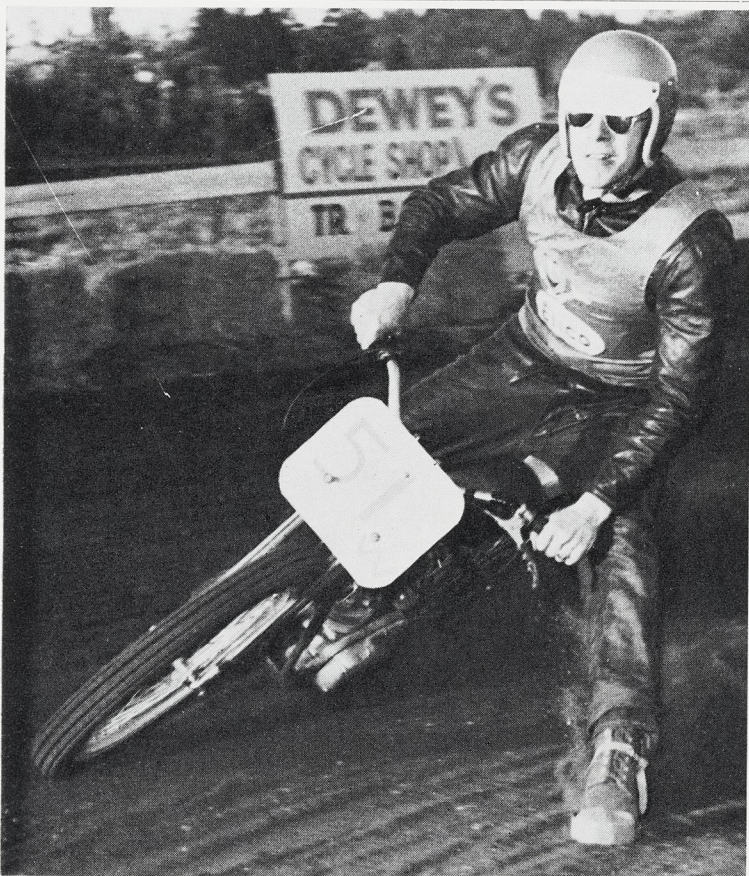
Mrs. Sanford



Mr. Palmer

**Dean Palmer, aircraft electrician mechanic, Norair:**

In reality, I don't think they should. They aren't stable enough. I know I wasn't at that age, and I don't know if I am now.



**AROUND THE TURN**—Norair's Don Dorsey shows form that helped him win top motorcycle racing honors in Pacific Northwest. Mr. Dorsey and a partner are entering the 1,000 mile overland Tijuana to La Paz, Mexico, race this fall.



**'MEN FROM MARS'**—Foreman Fred Chandler (far left) describes "space suits" worn by technicians assigned to mixing pyrotechnics at Northrop Carolina to Richard R. Nolan (third from left), Northrop senior vice president, Manufacturing and Administration, and mem-

ber of the board of directors of Northrop Carolina. Mr. Nolan periodically visits Northrop locations to review progress in such areas as new products, manufacturing methods and industrial relations. Suits are worn by Chester Lynch on left and Dallas Chandler on right.

## Four Air Force Officers Complete Training Course

Four Air Force officers have successfully completed a ten-month Education With Industry training assignment at Northrop, according to Harry Blocher, supervisor of Customer Training at Norair, who coordinated the program.

The Air Force Institute of Technology officers are Captains James E. Drumgool, George W. Mickey, Carlos L. Naumann and Robert W. Stewart.

The objective is to increase the officers' knowledge of industrial management, and thereby better equip them to meet Air Force requirements in the procurement of aerospace systems and equipment.

The officers followed a course of study and discussion with the management of departments of the Norair, Nortronics and Ventura divisions.

The Air Force Institute of Technology rates the Education With Industry program at the master's level, and will assign four more officers to Northrop.

## \$35 Million in Revenues Seen for Carolina by '73

A five-year business forecast of sales reaching \$35 million has been predicted for Northrop Carolina by its president, George F. Douglas.

Mr. Douglas told a gathering of 300 members of the Nortronics Management Club at Long Beach

that approximately 15 per cent in increased business is expected each year during the forecast period. "And we have reason to expect that this positive outlook will continue beyond the forecast period," he said.

For Mr. Douglas, his visit was somewhat of a homecoming. He was formerly vice president of Engineering at Norair, and vice president and general manager at Northrop Ventura.

The executive of the Asheville, North Carolina subsidiary of Northrop, spoke on the "Past, Present and Future of Northrop Carolina, Inc."

Another guest at the Management Club dinner was David Ferguson, vice president and manager of Nortronics' Precision Products Department at Norwood, Massachusetts.

Mr. Douglas listed propulsion, chemicals and ordnance as Northrop Carolina's major business area and predicted that textile machinery will figure prominently in the future of the subsidiary.



MR. DOUGLAS

## TEST OF ENDURANCE

## Motorcyclist Plans 1,000-Mile Race

The 1,000-mile overland route from Tijuana to La Paz, Mexico, is a driver's nightmare — hot, waterless, and with few improved roads—a challenge even to four-wheel drive vehicles with ample provisions.

This makes Don Dorsey's plans for covering the Baja California, route on a motorcycle, in 24 hours or less, all the more daring.

Mr. Dorsey, a Norair 747 Program inspector, and a partner will attempt their feat November 4-7 in the second annual Mexican 1,000 Rallye, an endurance race open to Jeeps, trucks, dune buggies, motorcycles and stock cars.

Mr. Dorsey will ride the first 500 miles of the race, turning his motorcycle over to his partner at El Arco for the final leg.

The first segment — Tijuana to Ensenada — will be a sedate run, within speed limits and against set times. From that point the objective is to beat some 200 other entries to the finish line.

The Dorsey-team motorcycle is a 1967 Maico, a German-built 360 cc speedster modified with Italian-built suspension, elongated chassis, engine modifications and other innovations.

The riders will wear crash helmets, heavy boots and gloves and a special two-piece suit with expanding pockets. Into these they will cram tools, spare parts, candy and water to sustain them in what they plan to be 12 hours of riding. Mr. Dorsey during daylight, his partner at night.

Gasoline and the second rider will be airlifted to the meeting point, with stops to deposit fuel at pre-arranged points on the route.

Mr. Dorsey calls his team "a very small frog in a big, big pond." That's because many entries will be backed by automobile and motorcycle manufacturers and dealers, major oil companies and others.

"This is big-time racing," Mr.

Dorsey says. "The top prize is \$5,000. The entry fee is \$250. We already have more than \$2,000 invested in our motorcycle."

Since the race is primarily a test of endurance, of both man and machine, Mr. Dorsey and his partner are preparing now for the race in November. They are running, lifting weights, swimming and doing exercises to build physical stamina, while running their motorcycle over rough terrain to iron out "bugs."

Mr. Dorsey is a veteran motorcycle racer. He was the top short-track rider in the Pacific Northwest in 1963 and ranked fourth in the nation in American Motorcycle Association standings. He retained a top national ranking in 1964 before a leg injury curtailed his racing.

He came to Northrop last February after working two years for The Boeing Company in Seattle.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale

**Plymouth**, 1966 Barracuda, 273 4-bbl., p/s, p/b, \$1,750. 213-675-2304. A

**Chevrolet**, 1956, 2-dr., 348 eng., 4-spd. trans., \$350. 213-751-2223. A

**Le Mans**, 1963, 4-cyl., 4-spd., 4-bbl. carb., \$750. 213-672-7978. A

**Station Wagon**, Falcon, 1965 2-dr., V-8 eng., p/s, auto. trans., r/h, \$1,200. 714-962-4134. A

**Cadillac**, 1963 Coupe de Ville, full power, a/c, \$1,595. 213-631-3656. A

**Pontiac**, 1962 Tempest, std. trans., \$375. 213-370-5287. A

**Dodge**, 1960 4-dr., low miles, \$150. 213-752-3273. A

**Station Wagon**, 1959 Rambler, V-8, \$299. 213-670-4342. A

**Pontiac**, 1966 GTO convt., custom whl. covers, p/s, p/b, turbo Hydro., \$1,795. 213-294-9535. A

**Dodge**, 1963 model 330, r/h, std. shift, 6-cyl., \$575. 213-672-1115. A

**Chevelle**, 1964 Malibu, 2-dr., r/h, p/s, a/c, auto. trans., \$1,450. 213-323-9185. A

**Station Wagon**, 1963 Chevrolet Impala, 9-pass., p/w, p/seats, p/s, p/b, auto., 327 cu. in. V-8, \$825. 213-329-4090. A

**Buick**, 1963 Le Sabre, 4-dr. h/top, a/c, p/s, p/b, r/h, \$1,000. 213-371-1445. A

**Mustang**, 1966, r/h, p/s, p/b, auto. trans., new tires, \$1,875. 213-831-1090. A

**GTO**, 1968, p/s, turbo Hydromatic trans., \$3,195.77. 213-675-7410. A

**T-Bird**, 1963, convt., \$995. 213-396-5428. A

**T-Bird**, 1963 h/top, \$1,125. 213-635-3056. A

**Porsche 911**, 1966, sunroof, AM-FM, stereo, \$4,365. Box 1301. A

**Ford**, 1956, 4-dr., auto., V-8, r/h, \$150. 213-675-9433, 213-757-6068. A

**Station Wagon**, 1967 Toyota Landcruiser, 4-dr., 4-whl. drive, Warren hubs, p/winch, many extras, \$2,995. 213-545-5995. A

**Ford**, 1964 Sprint, convt., rebilt. eng., new tires, \$1,100. 213-644-6061. A

**Chevrolet**, 1966 Impala 327, r/h, p/s, fact. air, \$2,000. 213-675-4998, 213-676-1522. A

**Porsche**, 1964, Model C, AM-FM radio, new clutch, tires & exhaust, \$2,900. 213-831-3267. A

**Corvette**, 1935 Sting Ray w/fuel injection, mag wheels, many extras, new tires, \$2,950. 213-374-2756. A

**Falcon**, 1951 2-dr., radio vibrasonic, new Dunlop tires, 1/8" mahogany paneling, \$500. 213-320-2100. A

**Chevy II**, 1967 Super Sport, h/top, 327 V-8, 4-spd., mag whls., r/h, p/s, p/b, \$2,240. 213-371-3201. A

**Dune Buggy**, 1961, rebilt. VW eng., fiberglass body, top, tuned exhaust, rear seat, \$1,400. 213-322-7869. A

**Chevrolet**, 1962 Impala S.S., V-8, 409, 4-spd., w/2 4 bbls., new trans., \$650. 213-834-1592. A

**Ford**, 1932 3-window cpe., new rebilt. Olds. eng., Hydromatic trans., \$450. 213-892-7972. A

**Station Wagon**, 1964 Dodge, 6-pass., air, p/s, p/b, \$1,200. 213-831-4586. A

**Buick**, 1963 Skylark, V-8, auto. trans., p/s, radio, \$1,050. 213-830-6163. A

**Cadillac**, 1963 Fleetwood 60 Special, full power, air, fact. cast alum. wire whls. w/ 30,000 mile guarantee on tires, \$1,995. 213-541-1321. A

**MGB**, 1964 roadster, r/h, wire whls., chrome roll bar, new clutch, wheel bearings & battery, \$1,700. 213-375-9657. A

**Pontiac**, 1963 Le Mans, 326 V-8, floor console, auto. trans., r/h, p/s, 2 near new tires, \$875. 213-679-0918. A

**Renault**, 1959, 6 v., r/h, all or parts, \$95. 213-370-2876. A

**Ford**, 1957 4-dr. sedan, needs paint job, \$85. 213-774-4281. A

**Chevrolet**, 1963 Biscayne, V-8, 4-dr., take over \$49 mo. pymts., \$980 bal. 213-320-3529. A

Household Items For Sale

**Hide-A-Bed**, Riviera & matching chair, \$30. 213-675-5522. B

**Rug**, oval, braided, 10x14 reversible, pad, \$35. 213-353-6617. B

**Table Lamps**, 2 matching, w/round shades, rose-beige base & light beige, 26" high, \$25. 213-675-9530. B

**Sofa & Rocker**, matching, Naugahyde, \$120. 213-374-3060. B

**Coffee Table**, matching 2 end tables, blonde, \$30 or sell sep. 213-370-9470. B

**Hot Water Heater**, 20-gal., factory rebilt., never used, \$15. 213-371-2948. B

**Range**, Gaffers & Sattler, broiler, griddle, auto. oven, \$45. 213-754-7947. B

**Dining Room Set**, \$35. 213-545-3495. B

Household Items For Sale

**Washer**, General Electric, needs work, \$20. 213-644-2607. B

**Dishwasher**, portable G.E., 1 yr. old, \$125. 213-645-5786. B

**Rocker**, Boston, w/floral pads, \$20. 213-378-8979. B

**Bed**, dble., box springs, mattress & frame, 2 yrs. old, \$50. 213-676-4471. B

**Stove**, Kenmore, gas, 36", coppertone, used 8 mos., \$150. 714-639-5325. B

**Sectional**, 4-pc. liv. rm. set & TV, RCA 21", \$150. 213-662-5388. B

**Dining Room Set**, Early American decorator, white, gold & maple, 4 chairs, round pedestal table & hutch, \$300. 714-637-5059. B

**Oven**, elec. biltin-type, Gaffers & Sattler, broiler, auto., 2 yrs. old, \$75. 714-826-3631. B

**Rug**, 9x9 brown & white tweed, pad, \$15. 213-644-3116. B

**Washer & Dryer**, G.E. filter flow, \$225. 213-678-1649. B

**Sewing Machine**, Singer portable w/all attachments, \$45. 213-379-3487. B

**Dining Table**, modern, walnut, 6 chairs, Never-Mar top, \$150. 213-889-0793. B

**Chair**, tan Naugahyde, \$25. 213-867-5809. B

**Coffee Table**, 40", round w/2 large comodes, modern, other household items, \$85. 213-673-1253. B

**Range**, gas, apt. size, oven, \$50. 213-532-7634. B

Miscellaneous For Sale

**Tent Trailer**, h/top, sleeps 4, water tank, other access., \$400. 213-373-2074. C

**Movie Camera**, Eastman M2, never used, \$20. 213-672-2370. C

**Sloop**, Islander 32, full race, wheel, auto. pilot, terms, \$16,250. 213-345-2910. C

**1/6 Airplane Share**, Piper Colt, 108 h.p., 100 hrs. s.m.o.h., King 150A, full panel, \$4 hr. wet, \$400. 213-759-5717. C

**Aquariums**, 2, 5-gal. w/equip., & Beta tank, \$15. 213-375-0351. C

**Micrometer**, Starrett 0-1, \$12. 805-498-3549. C

**Metal Lathe**, 36" Craftsman Atlas, reverse switch & stand, many extras, \$750. 213-855-5C84. C

**Dinghy**, 8', all sports yak, \$50. 213-831-9545. C

**Luggage**, hvy. duty Samsonite, men's 2-suitier, ladies' wardrobe, pullman, overniter, train case, \$50. 213-679-6982. C

**Cabin**, A-frame, 5 yrs. old, R-2 lot, Swedish metal fireplace, close to golf course & skiing area, \$21,000. 213-377-3888. C

**Boat Mold**, 16' female, top deck & hull, \$200. 213-679-7849. C

**Accordion**, 120 bass, Castle, \$75. 213-324-0649. C

**Lawn Edger**, adj. angle, 4-cycle Briggs & Stratton eng., \$40. 213-325-8478. C

**Tape Player**, Muntz, never used, wood paneling, 4-track, \$20. 213-672-8468. C

**Sand Box**, child's 4-seater w/canopy & bag of sterilized sand, \$12. 213-325-3724. C

**Air Conditioner**, 11,000 b.t.u., 110-120 volt, \$190. 213-675-1860. C

**Lawnmower**, 20" rotary, 3 h.p. Briggs & Stratton, 4-cycle, \$30. 213-320-3529. C

**Trailer**, 16' Gibson, sleeps 6, elec. brakes, refrig., awning, jacks & controller, \$475. 714-827-9356. C

**Bar Stools**, 2 antique white legs, yellow seat & back, \$35 ea. 213-759-5053. C

**Lot**, 1/2 acre, near Redwood Nat'l. Pk., 15 mi. so. of Oregon border, \$1,000 equity, \$1,400 bal., \$2,400. 805-942-5306. C

**Camera**, 35 mm Miranda-DR, f/1:9 Soligor lens, case, \$85. 213-964-0182. C

**Duplex**, No. Manhattan, \$38,500. 213-375-7130. C

**Pups**, French poodle, pedigreed, champ. background, 2 males, 8 wks. old, \$50 ea. 714-524-1182. C

**Ham Equipment**, Johnson desk kilowatt & cent. elec. 100 V exciter, \$720. 714-635-1037. C

**Home**, 3-bdrm., 2 1/2 baths, 2,000 sq. ft., 5 yrs. old, 2-ton a/c, elec. bltins, cpts., dps., 3 patios, small dn., N.E. Orange, lease option, \$33,500. 213-845-9615. C

**Lot**, in Arrow Bear, \$2,195. 213-674-3953. C

**House**, 4-bdrm., 1 3/4 bath, dps., cpts., biltin stove, oven & d/washer, newly painted, 5 min. from Northrop Hawthorne, \$31,500. 213-324-8464. C

**Rifle**, Winchester .30-.30 lever-action, \$60. 213-645-1514. C

**Honda**, 1963, 305 Hawk, rebilt. motor, needs batt. & reg., \$225. 714-673-5587. C

**Bicycle**, 3-spd., collapsible, \$35. 213-672-7167. C

**Bicycle**, boy's Sting Ray, 3-spd. stick shift, \$40. 213-379-1955. C

**Steps**, wooden, for mobile home or trailer, solid 2" boards to 24" high & 36" high, \$10 set. 213-644-5449. C

**Home**, 4-bdrm., 2 baths, in Garden Grove, 6 yrs. old, dble. gar., \$24,300. 714-537-7279. C

**Residential Lot**, in Palos Verdes Estates, \$21,500. 213-541-1226. C

**Movie Camera**, Brownie, 8 mm, \$15. 213-377-4317. C

**Tent**, 9' x 18' dble. sideroom, o/side alum. frame, fabric floor, carrying cases, \$50. 714-847-0956. C

**Motorcycle**, Triumph, 650 cc T.T. Special, \$500. 213-671-3907. C

**Clarinet**, std. B-flat, Boehm system, \$20. 213-676-5101. C

Miscellaneous For Sale

**Mag Rims**, Riviera, \$80. 213-676-5186. C

**Guitar**, elec., amplifier & case, \$75. 213-346-0814. C

**Organ**, Hammond, Series 100, 2 yrs. old, mahogany finish, \$750. 213-326-0316. C

**Luggage**, 3-pc. set, light blue, \$30. 213-675-5963. C

**Saddle**, western, \$45. 213-394-5470. C

**Desert Property**, 2 1/2 acres, 1 mile from proposed lake & sportsman's center, near Twenty-Nine Palms, \$2,000. 213-677-3471. C

**Telescope**, 304 power, Tasco, \$150. 213-375-5610. C

**Ski Boat**, 15' Power Cat w/2 recently rebilt. Johnson 35 h.p. engs., complete w/all access., \$1,150. 213-340-3005. C

**Surfboard**, Weber, 9' long, \$35. 213-374-6162. C

**Rear Seat** for Jeep Wagoneer station wagon, \$30. 213-581-0863. C

**Home**, 4-bdrm., 2 baths, lge. fenced yd., 2-car gar., newly repainted inside & out, near schools & Garden Grove Fwy., low dn., \$21,995. 213-581-5208. C

**Travel Trailer**, Santa Fe, self-contained, sleeps 4, \$400. 213-398-5280. C

**Shoe Skates**, ladies', white, toe stops, \$20. 213-370-3132. C

**Auto Top Carrier**, \$20. 213-833-7253. C

**Yamaha**, 250 cc, eng. completey rebilt., \$325. 213-836-4340. C

**Apt. Bldg.**, 5-unit, 3 yrs. old, cpts., dps., bltins, marble pullmans, forced air heat, \$59,000. 213-676-5532. C

**Guitar**, St. George, acoustical, w/Kay amplifier, 18 mos. old, \$35. 213-248-4557. C

**Camper**, fits Chev. step-side truck, 8', sleeps 4, \$100. 213-663-4425. C

**Tape Recorder**, Concertone broadcast, pre-amp-mixers, 4-head stereo w/access. & manual, \$225. 714-827-4097. C

**Lot**, residential, in California City, near elementary school, \$400 dn., easy terms, \$4,000. 213-377-7156. C

**Tape Recorder**, Wollensak T-1500 mono., 2-spd., portable, 40-15,000 c.p.s., \$75. 213-789-8536. C

**Surfboard**, 9'6" Weber, Iggy signature model, \$35. 213-676-4050. C

**Surfboard**, 9'10" Bing Nuuhiwa Noserider, \$85. 213-545-6313. C

**House**, 3-bdrm., 2 baths, cpts., dps., sprinklers, bkfst. nook, close to Northrop, \$24,900. 213-321-1655. C

**Camper**, 8', homemade, rugged, insulated wood const., half-cabover, butane tank, & stove, \$175. 213-360-4995. C

**Transmission**, 1955-1957 Ford, 3-spd. w/3-spd. Hurst linkage, & set of G heads w/custom valve covers, \$50. 213-323-5756. C

**House**, 3-bdrm., covered patio, new tiled kitchen & bathroom, 2 min. from Norair Haw., \$24,750. 213-679-7058. C

**TV**, 24" Packard Bell, b&w, French provincial model, wired remote control, new tubes, 8 yrs. old, \$100. 213-377-6458. C

**House**, 2-bdrm., dble. detached gar., 50'x150 R-2, fenced lot, 3 miles from Norair Haw., \$17,500. 213-324-5422. C

**House**, 3-bdrm., 1 3/4 bath, deluxe bltins, cpts., dps., fenced yd., G.I., FHA or 20% dn. & finance balance at 6%, \$29,950. 213-675-8829. C

**Pool Table**, Bumper, cues, balls & rack, \$175. 213-370-2742. C

**Sailboat**, Cal-20, complete, \$2,300. 213-375-4891. C

**Ski Boat**, 12'6", fiberglass o/wood, 40 h.p. Mercury eng., elec. start, \$400. 714-828-8439. C

**Gown**, aqua blue, floor length, lace empire top, chiffon o/taffeta skirt, pleated, elbow sheer sleeves, size 7/8, \$15. 213-755-7255. C

**Bowling Balls**, 3, drilled for children's hands, 12 lbs. ea., case, \$5 ea. 213-325-3452. C

Miscellaneous For Sale

**Boat**, 14', 35 h.p., elec. starter, trailer, \$300. 213-542-098. C

**Travel Trunk** or camp locker, \$12. 213-676-2162. C

**Photo Enlarger Eclipse**, w/tanks, trays, easels, \$35. 213-789-5791. C

**Swimming Pool**, Doughboy, 15'x48", ladder & vacuum cleaner, \$75. 213-372-9752. C

**Home**, 5-bdrm., 2-story, 2 full baths, biltin kitchen, fireplace, fenced yd., cpts., dps., 20 min. from Norair, \$33,500. 213-632-3623. C

**Drill**, 1/4", Skil model 596-5, reversible, variable speed w/adjusting knob, \$24.50. Box 1302. C

**House**, 3-bdrm., 1 1/2 baths, 63x135 lot, 16x35 pool, separate 2-car gar., \$28,950. 213-754-7861. C

**Dust Cover**, walnut base, hinged, for Miracord 50H or 40H record changer, \$17. 213-379-6983. C

**Guitar**, Gretch Country Gentleman, \$495. 213-375-4448. C

**Silk Screen**, frame, paint, \$5. Box 1303. C

**Trailer Hitch** for Corvair, chrome plated, \$10. 213-679-2041. C

**Mini-Bike**, 3 h.p. Taco, \$105. 213-291-0025. C

**Home**, 4-bdrm., bltins, cpts., dps., fireplace, close to schools & shopping, terms, \$37,950. 213-375-7202. C

**House**, 3-bdrm., 2 baths, h/wood floors, cpts., dps., bltins, near P.V., \$27,000. Box 1304. C

**Engine** for 1962 Sunbeam Alpine w/4-spd. trans., o/drive & rearend w/wire whl. hubs, \$150. 213-673-0859. C

**House**, on corner, 4-bdrm., den, fenced yd., fruit trees, patio, lge. U-shaped walk-in closet, 10 min. to Northrop, will G.I., \$32,000. 213-756-4702. C

**Motorcycle** Tires & Tubes, 2, 2.50x18, used less than 200 miles, \$14. 213-675-3884. C

**Telescope**, 4 1/2" reflector w/3 eyepieces & mahogany tripod, \$75. 714-962-1805. C

Wanted to Buy

**Ford**, Econoline, VW van or bus, or Chev. van in good condition. 213-371-9925. D

**Crib**, white w/canopy in good condition. 213-326-6195. D

**Rifle**, Winchester 32 Special, model 94. 213-323-4257. D

**Table Saw**, 8" or 10", in good condition & reasonable. 213-326-6793. D

**Station Wagon**, 1964-65 Classic Rambler, auto. trans. 714-968-1539. D

**Want** to buy Honda, 300 Scrambler, 1935 1937 or have 160 Scrambler for trade. 213-328-7048. D

**Vegetable Juicer**, prefer Champion brand, must be capable of continuous operation w/out emptying pulp. 213-329-1018. D

**Bicycle**, ladies', must be in good condition. 213-774-2502. D

**Tent**, 10x12, in good condition. 714-847-7735. D

**Volkswagen**, 1936 or 67 Squareback, cash, no trade. 213-375-2869. D

**Slide Rule**, reasonable price. 213-679-1366. D

Free (To Be Given Away)

**Pups**, mixed springer spaniel, black & white. 213-676-4251. F

**Kittens**, 5 wk. old. 213-371-2381. F

**Kittens**, 4, long haired, born at Easter time. 213-377-1094. F

Rentals Offered

**Home**, new, Lake Arrowhead, 3-bdrms., rumpus rm., 2 baths, sleep 10, 2 families O.K., \$24 night, \$150 wk. 213-476-1842. G

**Apt**, executive, 2-bdrm., 2 1/2 baths, 1,400 sq. ft., near Inglewood, \$200 mo. 213-670-6084. G

Rides and Riders

Rides Wanted

8 a.m. — 4:45 p.m.

**Palos Verdes to Santa Monica**, Palos Verdes. Occasional one way ride. Judy Rittscher, Nort. P. V. ext. 375, 213-375-8434.

Rentals Offered

**Cabins**, Lake Gregory & Crestline, sleep 6, make reservations now, \$25 w/ends; \$60 wk. 213-391-2040. G

**Apt**, deluxe 2-bdrm., furn., pool, closed gar., near El Camino, adults, \$170. 213-329-5986. G

**Camping Trailer**, 15', sleeps 5, 3-burner stove, ice box, \$35 wk. 714-528-3533. G

**Cabin**, Lake Arrowhead, north shore, 200 feet from lake, view, \$100 wk. 213-375-2255. G

**Studio Apt**, exec. type, 3-bdrm., in Torrance, all elec. bltins, 2 gars., pvt. patio, cpts., dps., ready for occupancy, no pets, 1 yr. lease, \$275 mo. 213-326-4944. G

**House**, 2-bdrm., stucco, cpts., dps., gar., enc. yard, \$145 mo. 213-532-4566. G

**Cottage**, Ocean Beach, San Diego, near Mission Bay, \$65 wk. 714-826-2007. G

**Apt**, 1-bdrm., unfurn., utilities paid, adults, \$90. 213-675-6285, 213-676-2501. G

**Cabin**, Green Valley Lake, \$35 w/end; \$55 wk. 213-320-2002. G

**Cabins**, Idyllwild, 1 & 2 bdrms., fireplace, stream, patios, \$50-\$90 wk. 213-754-5288. G

**Bachelor Apt**, furn., upstairs, for 1 person, \$75. 213-676-5921. G

Child Care

**Child care** offered, my home, evening shift preferred, full time, references can be furnished, Hawthorne Inglewood area. 213-679-1392. I

Lost

**Tie Pin**, Roman copper coin, reward. 213-542-2537. J

Found

**Pair** prescription glasses, Plant III, approx. June 1, contact clerk on ext. 5131, 5134. K

Personals

**Your** kind expressions of sympathy, cards & flowers for our late uncle, Elmer G. Smith, are gratefully acknowledged & deeply appreciated. BARBARA & JIM ENZOR, ASA & GEORGE SMITH. L

**House Painting** wanted on Saturdays, interior & exterior. 213-329-9303. L

**Mr. & Mrs. Carl Agelotty** wish to thank his fellow workers in Dept. 5754 & friends at Northrop for the cards & letters of encouragement during the time of his operation. He is making a rapid recovery & will be back soon. L

**To** my friends at Northrop for their kind expressions of sympathy in the recent loss of my wife, Loretta Miller. RICHARD MILLER, RICK, FRANK & JIM. L

**Sincere** thanks to my friends & former co-workers of my mother, Florence Lyon, for their kindness & expressions of sympathy during her illness & death. SALLY VALENCIA. L

**Please** accept our sincere gratitude & appreciation for the sympathy, acts of consideration & flowers received during the illness & death of our beloved Ralph Turner. NORM TURNER & FAMILY. L

**Roommate**, female, wanted to share 2-bdrm. apt. w/Northrop employee, preferably near Beverly Hills office. 213-370-0312. L

For Sale or Trade

**Gun**, Colt, 22 mag. w/extra 22 L.R. cylinder & holster, \$60 or trade for 12 ga. pump or auto. 714-639-1629. M

**Sander**, portable, air-powered Sundstrand, & grease gun, Alemite, \$60 or trade for good quality bolt action .22 target rifle. Box 1305. M



ALAN C. MORGAN (center), Corporate vice president of Industrial Relations, accepts Good Neighbor plaque recognizing Northrop Corporation's support of six financial institutions in the south-central Los Angeles community. The award was presented by A. E. Hampton (left),

president of the Family Savings & Loan Assn., and Dale C. Roussell (right), executive vice president of Robinsons' Research and Enterprises. Mr. Hampton and Mr. Roussell are instrumental in the Good Neighbor Program with the over-all goal of assisting rehabilitation of the Watts area.



## Gus Duke In Program At Stanford

Gus G. Duke, manager of Northrop Ventura's Mobile Anti-Submarine Warfare Target Program, has been chosen as Northrop's first participant in the Stanford Executive Program.



Mr. Duke

The program, in its 17th year, is administered by the Stanford University Graduate School of Business.

Mr. Duke has been with Northrop Corporation since January 1964, and with Northrop Ventura for more than two years.

The concentrated, eight-week course, covering case problems in finance and business, began on June 23 and will continue until August 15.

One hundred students, including company presidents, managers and vice presidents from 28 countries, are participating.

Mr. Duke was a commander in the United States Navy with more than 20 years of underwater weapons experience. From 1961 through 1963, he was director of the Torpedo Division of the Anti-Submarine Warfare Office of the Bureau of Naval Weapons.

He also worked on the Polaris Program; the Tartar, Terrier and Talos missiles; and the Transit Satellite.

He received a bachelor of science degree in electrical engineering from the Polytechnic Institute of Brooklyn, and a master of science degree in industrial management from Rensselaer Polytechnic Institute.

## NVRC Buys Tables

Tables, chairs and umbrellas for the new patio next to the cafeteria have been purchased by the Northrop Ventura Recreation Club, and are scheduled to be delivered this month.

The NVRC bought six tables with aluminum umbrellas, and six chairs for each table. Concrete for the new eating area was poured last month.



SWEDEN AND THE KD2R-5 — A Swedish technician operates the radio controls of the KD2R-5, while his colleagues follow the flight of the Northrop Ventura-built target drone with binoculars. Ten KD2R-5 target drones will be delivered this month to Royal Swedish Navy.

## Graduate School Director Joins NV as Consultant

Dr. Gary G. Williams, administrative director of Continuing Education Programs at Stanford University's Graduate School of Business, has joined Northrop Ventura as a special consultant.



Dr. Williams

Dr. Williams, in his words, is "studying the areas of communications within the division, assessing their effectiveness, and possibly suggesting ways of improving them where needed."

He has been associated with the Graduate School of Business since 1961, and until recently was assigned to the Stanford-Sloan Program.

He received his doctorate in marketing from Stanford, after completing a dissertation on communications. He has been a consultant to industry in the field of communications since 1962.

He received his bachelor of science and master of science degrees from San Diego State College.

## JULY 25 DRIVE

### Need for Blood Stressed

Northrop Ventura's annual blood bank has been scheduled for 8 a.m. to noon July 25 in the Administration building assembly room.

Donor cards were distributed to employees last week, and should be turned in today to supervisors.

Elinor Eckels of Medical Services said the cards will be re-distributed to donors, with the donation time indicated. Employees who have not received donor cards may acquire them from Medical Services.

"Several open heart surgeries and other emergencies in the past year have depleted our supply of available blood," Mrs. Eckels said. "To meet the anticipated demand from our employees and their families, we will need a significant turnout at the blood bank."

The blood bank is administered by the Tri-County Blood Bank, Inc.

The Northrop Ventura account receives credit for all blood donated, and that amount is made available to employees and their immediate families.

Prospective donors must be between 18 and 60 years old, but unmarried employees under 21 must provide written consent from a parent or guardian.

Additional information may be obtained by calling Mrs. Eckels on ext. 234.

## Barber To Head Crew at Pt. Mugu

A crew of 10 employees has been assigned to the Naval Missile Center at Pt. Mugu during the testing phase of the MQM-74A target drone.

Heading the group is Test Director Hal Barber, assisted by Russ Lenhart. Others are Lloyd Simpson, checkout supervisor; Fred Bewersdorf, assistant checkout supervisor; Marsh Loane, controller; Tony Harris, Cam Pulido and Milo Thomas, electronics technicians; and Hillis Wiley and Bob Vogt, mechanical technicians.

Assisting the 10-man crew will be Billy Johnston, logistics; George Boren, quality assurance; Bill Templeman, operations manual; and secretary Millie Barrett.

## 'Roundfile' Drive Set For August

Operation Roundfile, a drive which has achieved savings of more than \$1.5 million at Northrop Norair in the past six years, will be held for the first time at Northrop Ventura next month.

Welko E. Gasich, vice president and Ventura general manager, has designated August 1 through 30 for the campaign, and has set a division-wide goal of \$101,000 in savings. That figure was recommended by a study team which reviewed Ventura operations in May.

Barbara Fuller of Records Management will coordinate Operation Roundfile. In preparation, she met this month with Norair's Eric von Hurst, who has led that division's Roundfile drive for several years.

"Briefly," Mrs. Fuller said, "Operation Roundfile is a drive to achieve savings by updating files, relinquishing unnecessary equipment, cleaning out drawers and cabinets, and disposing of obsolete paperwork."

All Northrop Ventura department managers will appoint coordinators, who in turn will direct the drive in their area.

## MQM-74A

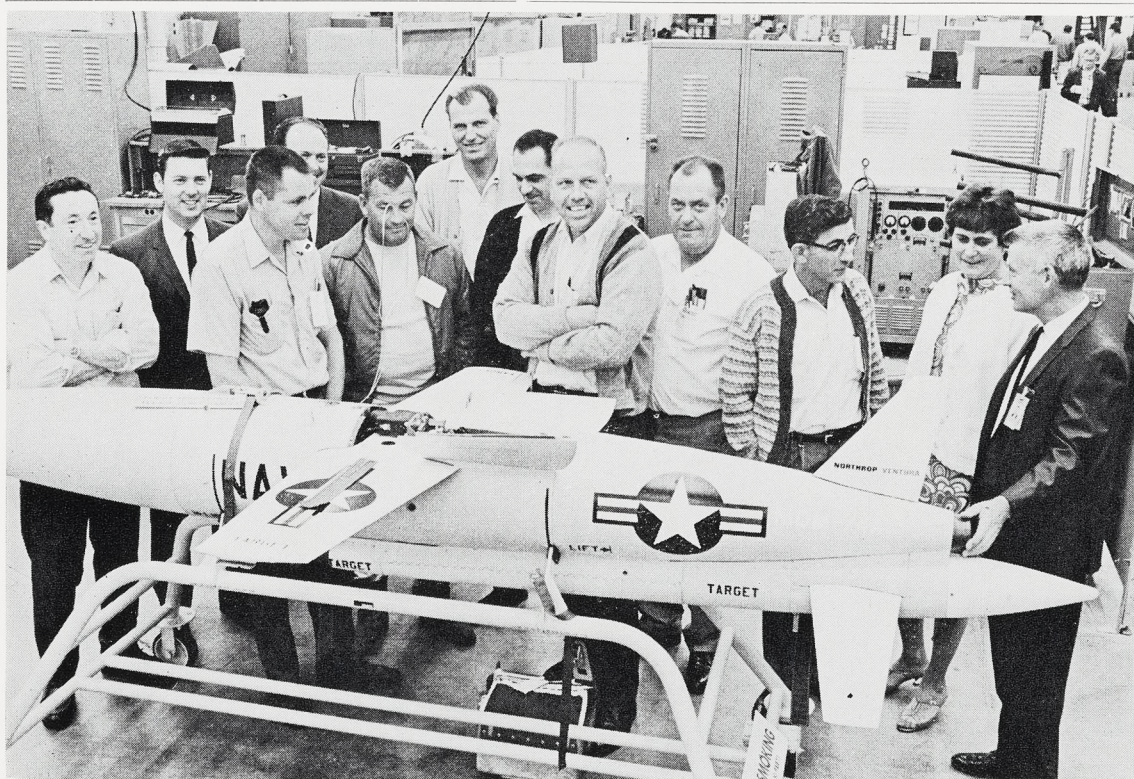
(Continued from page 1)

ered to Pt. Mugu, where the drone will be flight tested by Northrop under contract to the Naval Missile Center.

"The initial delivery of MQM-74A's is the result of a very fine performance on the part of the entire 7/11 team," said Ben Collins, program manager — Aeronautical Systems. "If I were to list all the individuals who deserve recognition for this accomplishment, the list would contain hundreds of names."

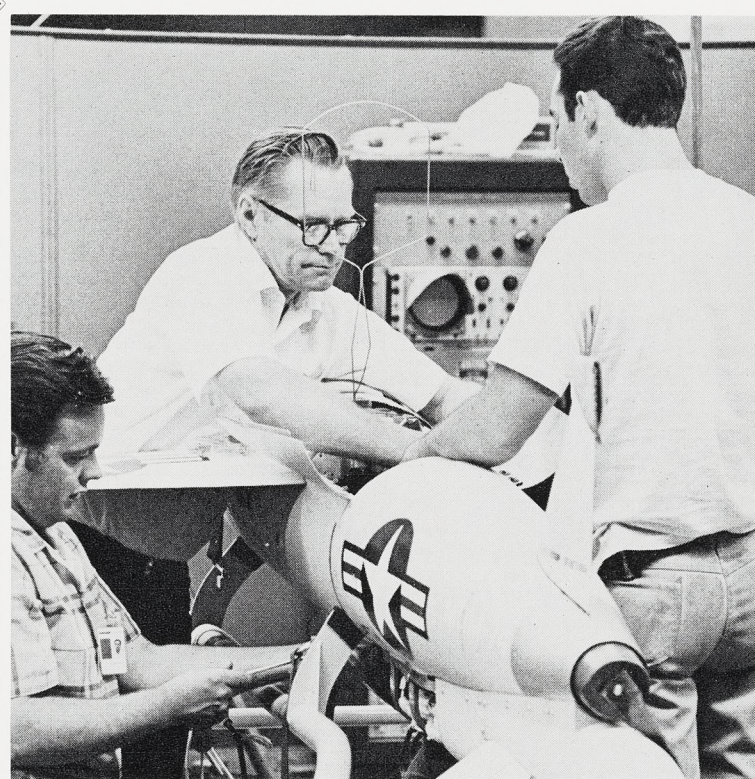
"This is one of the most assuring targets we have ever built in terms of instrumentation, ground support equipment, schedule commitments, and in many other respects," he continued.

"We can achieve the remainder of our objectives only through the dedication and wholehearted support of every person in the division who is serving on the program."



THE TEAM AT PT. MUGU — Standing behind the first MQM-74A delivered to the Naval Missile Center at Pt. Mugu is the Northrop Ventura crew which has been assigned to Mugu.

The employees will remain at the center while tests are conducted on the Northrop Ventura-built, turbojet-powered drone.



FINAL PREPARATIONS — Completing the detail work on Northrop Ventura's MQM-74A before delivery to the U.S. Navy are (from left) Edward Dzalak, Aldean Holman and Jim Moore. The turbojet-powered drone was delivered to Pt. Mugu.



# NORTHROP NEWS

NORTHROP VENTURA

Published biweekly by Northrop Corporation, Beverly Hills, California

Vol. 26, No. 14

July 17, 1968

## Fifth Set of Wing Fairings Now in Works

While major sections of the first Boeing 747 jetliner were being mated at Everett, Washington, technicians at Northrop Ventura were working on their fifth set of fiberglass wing fairings for future 747's.

The first 747 will be rolled from the Boeing plant this fall, and is scheduled to make its initial flight before the end of the year.

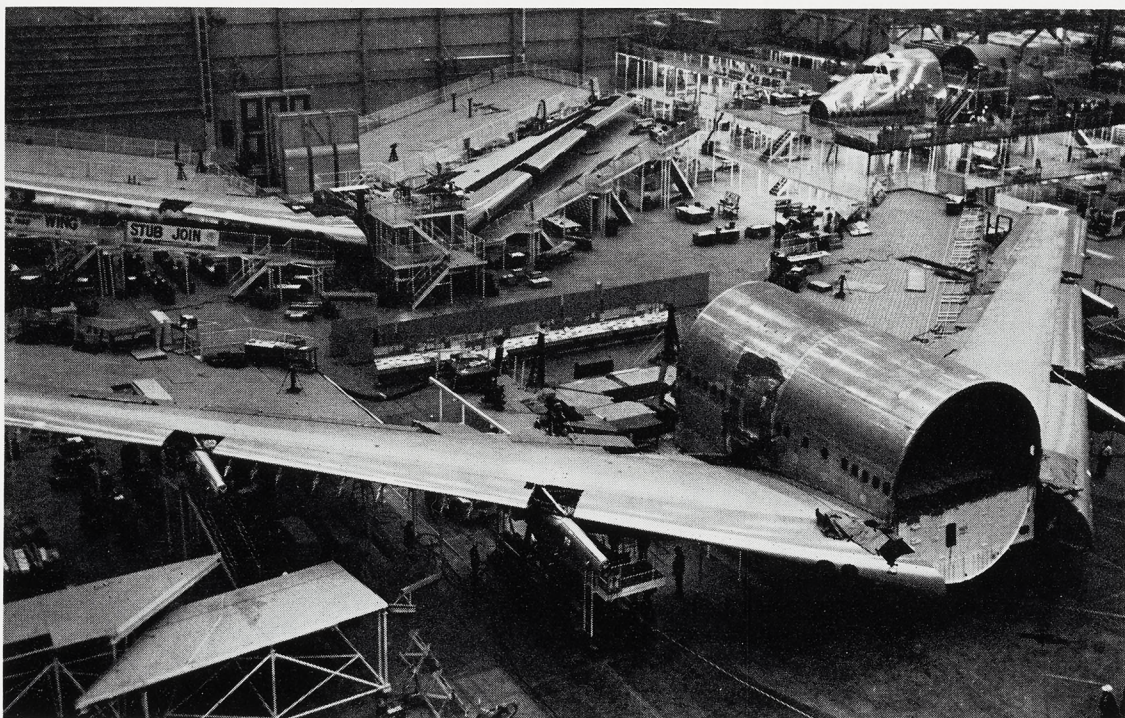
At Ventura, the honeycombed wing fairing panels have been in production for several months. The first shipment of fairings to Everett was made in May.

Product Chief Wayne Beeman said last week that the second set of panels was in the process of being shipped, while the third set was in final assembly jigs. Panels are placed on the assembly jigs in what Boeing calls a "fitted parts" configuration. They are then removed from the jigs, disassembled, crated and shipped to Everett.

The fourth and fifth sets of fairings are being built, Mr. Beeman said. For the remainder of the year, Ventura is scheduled to send one complete set of fairings and related parts to Boeing each month. In January, the number will double. And by next February and March, three complete sets are scheduled to be shipped monthly.

By 1971, Ventura will be supplying a peak amount of eight and one-half sets of fairings each month.

At Everett, two weeks ago, the forward and aft fuselage sections of the first 747 were joined to the center body section and wing, and the horizontal stabilizer was mated with the body. Norair is building the 153-foot-long main passenger compartment.



THE FIRST 747 — Inside The Boeing Company's huge facility at Everett, Washington, Section 44, assembled from Northrop-made components, of the fuselage of the first 747 is mated

to the wings, and is prepared for final assembly. Wing fairings, built by Northrop Ventura, later will be added to this section. Additional photographs on page 3.

## APOGEE CLUB

### Nineteen Honored for Apollo Efforts

Nineteen Northrop Ventura employees have been nominated for membership in the Apogee Club, which has been formed to honor employees for outstanding contributions to the Apollo Program.

Ten of the 19 were nominated last month. The others were selected last Thursday by an Apogee Club committee which includes George Grogan, vice president of Engineering; M. A. Maurer, vice president of Manufacturing; and his designee, John Evans, director of Experimental Fabrication; W. A. Steyer, Apollo Program manager; Rex Fairless, director of Industrial Relations; and George Johnson, acting manager of Quality Assurance.

All the nominees were approved unanimously. They will receive membership certificates, and

are eligible for consideration to receive "Snoopy" pins from the National Aeronautics and Space Administration.

Apogee Club members are, in alphabetical order:

Florence Booth, Electrical Assembly; Ralph F. Burkman, Metal Shop; Oscar Cease, Flight Operations; Santiago Colunga, Parolab; Glen Estes, Electrical Shop; B. A. Fitzpatrick, Parachute Fabrication; William H. Freeman, Space Systems Marketing.

James Johnson, Production Project representative; William L. Keating, Apollo Project group; Ed James Kepka, Material Planning and Services; Richard B. Kipp, Engineer specialist; John J. Lenarsic, general machinist; Garland J. Porter, project administrator; C. A. Robinson, El Centro Field test.

John L. Simpson, Quality Assurance representative; Lloyd G. Simpson, El Centro Field test; Clarence Tacquard, El Centro Field test; Harold R. Warren, El Centro Field test; and Robert P. Wondka, Apollo project office.

## Latest Test Of Apollo Successful

Qualification testing on the Apollo Earth Landing System passed another milestone this month with the seventh successful test in as many attempts.

The seventh test was held July 3 at the Department of Defense's Parachute Test Facility in El Centro. It verified the Northrop Ventura-built parachute system's performance during a simulated high-altitude abort.

Only two of Apollo's three main parachutes were deployed, and only one of the two drogue parachutes was used. Still, the full-sized boilerplate test vehicle made a normal landing.

The test series began in April, and continued through the next three months, as conditions were established to simulate various types of in-flight problems which could occur upon an actual manned re-entry.

Apollo 7, which will be the nation's first manned Apollo spacecraft, weighs nearly a ton more than Apollo 1, its predecessor. This weight difference necessitated redesign work on the parachute system. The Apollo spacecraft is at Kennedy Space Center, where testing on all phases of the program is under way.

The El Centro facility will continue testing of Ventura's Parawing, a program being conducted for the National Aeronautics and Space Administration.

(See APOLLO, page 6)

## NV Receives MQM-74A Drone Pact

Northrop Ventura has received an \$8,831,250 contract for production of MQM-74A target drones, bringing the total sales figure for the MQM-74A to more than \$19.5 million.

The contract was issued by the U.S. Naval Air Systems Command, as was the initial order—for more than \$10.7 million—15 months ago.

Under the fixed price incentive terms, Ventura will begin deliveries to the Navy in April 1969, after deliveries are scheduled to be completed on the first order. Deliveries will continue through November 1969.

The first two MQM-74A's were delivered to the Navy late last month—one going to the Navy Missile Center at Pt. Mugu; the other, to the Navy Weapons Laboratory at Dahlgren, Virginia. Testing at Pt. Mugu is scheduled to begin late this month. Drones ordered in the second contract will be used for training for anti-aircraft gunnery and missile crews at Navy facilities at San Diego, Hawaii and Norfolk.

Ventura eventually will have the capability to produce up to 80 MQM-74A's each month.

The MQM-74A is a highly maneuverable target vehicle, capable of flying under remote control radio at speeds up to 460 miles per hour. It is 11½ feet long and has a 5½-foot wingspan.

It is powered by a turbojet engine which weighs only 32 pounds but delivers up to 120 pounds of variable thrust.

The MQM-74A — originally called the NV-105 by the company — was designed to fill a

(See MQM-74A, page 6)

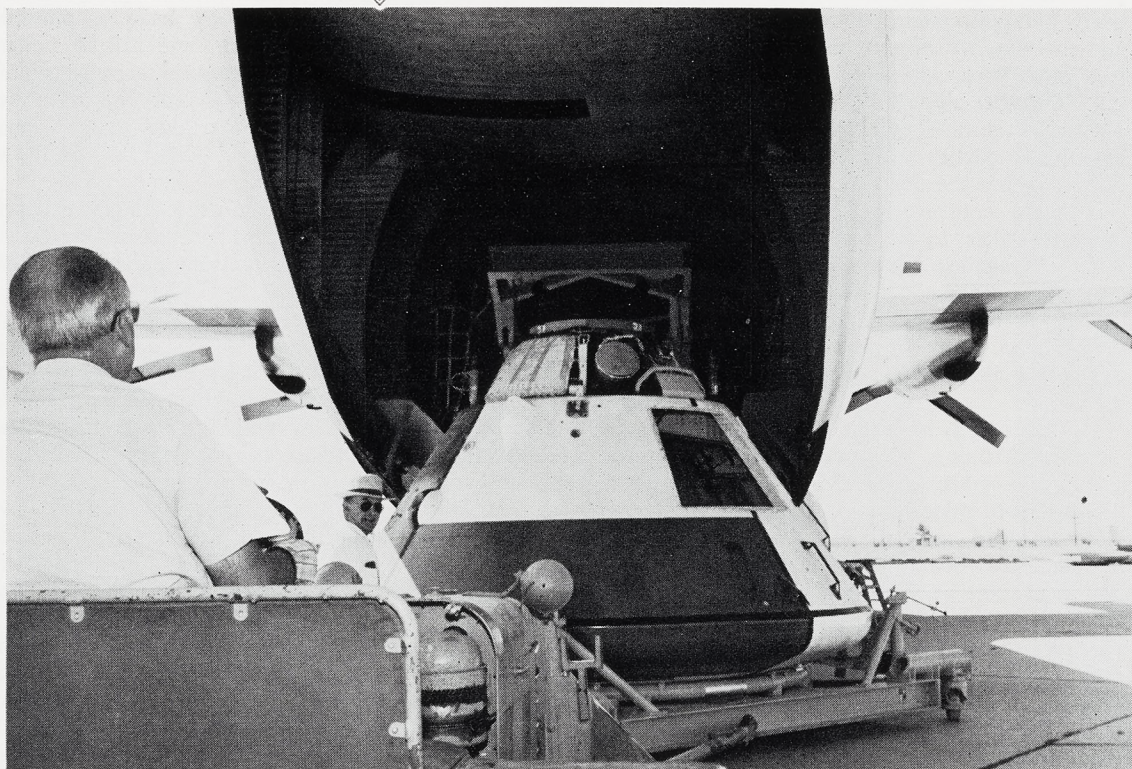
## Service Awards Set for Twelve At NV in July

Twelve Ventura Division employees are scheduled to receive service pins this month representing a total of 95 years of Northrop employment.

The awards include two 20-year pins, one 10-year pin and nine five-year awards.

Twenty-year pin recipients are Lawrence Schubert, who joined Norair on July 19, 1948, and transferred to Ventura five months ago, and Robert Worth, who began work at Norair on July 13, 1948, and transferred to Ventura six years ago. Mr. Schubert is an engineer in the Planning branch, Mr. Worth, chief project engineer in the Subcontracts office.

The 10-year man is Hubert Winkle, of the Custodial group. Scheduled to receive five-year pins in July are Madeline Brown, Donice Carter, Frances Cefaratti, David Coe, Anne Lewis, Gene Linhart, Margery Mertz, Ronald Smith and Wayne Williams.



TOWARD THE C-133 — Pushed by what NASA personnel call a "tug," the Apollo command module nears the open hatch of the C-133. The Boeing Company performs the

loading of the Apollo capsule for NASA. Northrop provides the complete Earth Landing System.



## NORTHROP NEWSMAKERS

**Glenn R. Lord**, vice president-Marketing, has been nominated as an Executive Committee member of the Los Angeles chapter of the National Security Industrial Association.

The association is a non-profit organization which acts as a liaison between industry and the military. Its mission is to maintain a strong military posture for the U.S. through cooperation between industry and the military.

**Robert M. Elder** has been named assistant to the president for Aeronautical Systems at Northrop Corporation.

His appointment was announced by Thomas V. Jones, Northrop president. Mr. Elder will coordinate division and customer relationships with the president's office in the aircraft segment of Northrop's business.



Mr. Elder

Until his new assignment, Mr. Elder was a member of the Customer Relations organization at Corporate headquarters. Before that he was director of Flight Operations at Norair. His work has included numerous U.S. and overseas assignments in the test and evaluation of tactical aircraft configurations.

Before joining Northrop in 1963, Mr. Elder completed a distinguished career with the U.S. Navy. He commanded two Navy fighter squadrons, an air group, and the attack carrier USS Coral Sea.

As a Navy test pilot, he had three tours of duty at the Naval Air Test Center, Patuxent River, Maryland, including one as director of Flight Test. He retired with the rank of captain after 25 years' service.

He was vice president of the Society of Experimental Test Pilots.

**Richard R. Nolan**, Northrop's senior vice president-Manufacturing and Administration, has returned from Norwood, Massachusetts, and a visit with Nortronics Precision Products Department personnel.

Mr. Nolan was briefed on PPD products and market forecasts by **David N. Ferguson**,

Nortronics vice president and manager of PPD. He was shown the Dual Axis Rate Transducer (DART) product line, gas-bearing fabrication, rate gyros and new product developments.

Conducting the tour were Mr. Ferguson and **Robert Schlenzing**, PPD's director of Manufacturing.

**Jay Novak**, Northrop Graphics director, discussed "Words and Images" at the 15th International Technical Communications Conference in Los Angeles. The topic of the conference was "New Developments in Technical Communications."

**William McDonald**, manager of the Engineering Services Department of the Military Division of The Hallicrafters Company, has been appointed manager of a newly established Southeastern Regional office.

The increase in military division business has necessitated the expansion of Marketing Department activities with a regional office in Norfolk, Virginia, according to Lester R. Grohe, vice president-Military Division.

Mr. McDonald will represent Hallicrafters at key military installations in Virginia and in Florida. Hallicrafters is a subsidiary of Northrop Corporation.

**Gilbert Peters** joined Hallicrafters as manager, Engineering Services Department, replacing Mr. McDonald.

Before joining Nortronics in 1964, Mr. Peters was general manager of the RCA Data Systems Center at Bethesda, Maryland.

**David M. Badger**, member of the Technical Management at Norair, has been appointed treasurer of the advisory council of the Los Angeles section of the American Institute of Aeronautics and Astronautics.

*"Some people put themselves above politics . . . In the name of all that's American, how can any good citizen feel superior to politics? We achieved our independence by politics. We freed the slaves by politics. We are taxed by politics. Our businesses flourish or wither by politics."*

—Charles Edison



PPD—Richard R. Nolan (second from left), Northrop senior vice president—Manufacturing and Administration, looks over production items at Precision Products Department. With him are (from left) David N. Ferguson, Nortronics vice president and PPD manager; L. P. Longtin, Manufacturing general foreman; and Robert Schlenzing, director of Manufacturing.



AIR FORCE OFFICERS completing a 10-month assignment at Northrop as part of the Education With Industry program are (from left), Captains James E. Drumgool, Carlos L. Naumann, George W. Mickey and Robert W. Stewart. Each received a certificate of comple-

tion issued by the Air Force Institute of Technology and presented by Gaylord Anderson (light suit), manager of Norair Product Support. Harry Blocher (right), supervisor of Customer Training at Norair, coordinated the program.

### SIX MILES APART

## Father, Son Serve In South Vietnam

Odds makers would have a field day with the possibility of a civilian father and a military son serving simultaneously in Vietnam, to say nothing of being based only six miles apart.

Yet it has happened to George Wilcox, a Northrop technical representative, and his stepson, Stanley Skidmore, an Army Specialist 4. They reported to Vietnam in April and February, respectively.

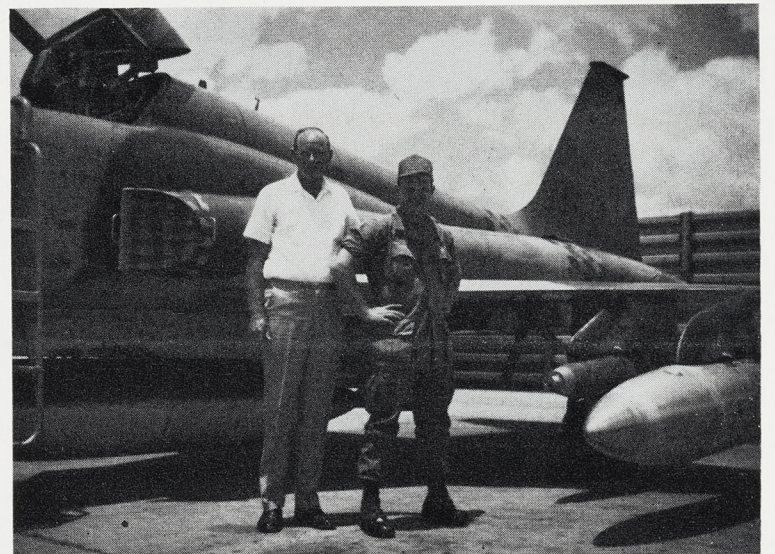
Mr. Wilcox serves the Vietnamese Air Force unit flying Northrop F-5 fighters from Bien Hoa Air Base. SP/4 Skidmore is a jeep driver and gunner with a security patrol at Long Binh Army Post.

"We get together almost every Sunday. It sure makes those off duty hours go by in a hurry," Mr. Wilcox reports. "Not every one over here is so fortunate."

Mr. Wilcox reports his son drives a vehicle that is a "regular arsenal on wheels" complete with machine gun, automatic rifle, shot gun, a grenade launcher and other weapons. Sometimes a guard dog and handler go along.

Mr. Wilcox is a veteran of more than 25 years of aircraft maintenance and supply work with the Air Force and Air National Guard. His service dates back to World War II and includes time with Military Assis-

tance Program F-5 units in Norway and Ethiopia. He retired from the Air Force in January 1967 and joined Northrop shortly thereafter for tech rep training. Vietnam is his first overseas duty assignment.



FARAWAY PLACES—George Wilcox, Norair tech rep, and his stepson, Army SP/4 Stanley Skidmore, are stationed just a few miles apart in South Vietnam.

### WHY TWO PARTIES?

## Party System Limits Government Power

(Editor's Note: Following is the second in a series of articles designed to acquaint Northrop personnel with America's two-party political system; to encourage everyone to support his party and candidates, and then vote in the November elections.)

One of the obvious reasons for having two parties in our political system is that the average American—from contrariness if nothing else—likes to be for something and against something else.

Another reason is that most of us like to belong to a group of people who, more or less, share our views about our nation and the world.

However, it is important to remember that ours is a two—not a multiple—party system despite the dozens of minor parties which have emerged and vanished during the history of our nation.

The average person often characterizes the Republicans as the party of the rich and the Democrats as those who uphold the causes of the poor or common man. There is some root to this going back to the original Hamilton-Jefferson conflict in George Washington's cabinet. Hamilton built the Federalist party on the theory that the first function of

government should be to encourage commerce and industry. Jefferson's opposition party was just that — opposition to Hamilton's views — and based upon an alliance of the Tammany Society of New York City and southern Virginia planters.

Although the shadow of those differences still exists, today's Democrats recognize that strong commerce and industry are vital to the nation, and Republicans admit that the poor people and laboring classes must receive due consideration.

The function of the winning party is to behave in such a manner that it will remain in power.

The function of the losers is to find enough flaws in the administration structure to become winners at the next election.

A strong opposition party is the greatest assurance we have that our government will be conducted in a wise and prudent manner without regard for special privilege to special factions.

Although we fought the Revolution to break our ties with Great Britain, the fact remains that our political system is rooted in the British system. It goes back to the day when men finally won the right to voice criticism of

their government without being hanged for treason.

Continental Europeans, who tend to associate a party with a cause, thereby have a multiple party system, and fail to understand ours where there seems often to be no real difference between the ideological or social position of Democrats and Republicans.

Above all, the thing which primarily distinguishes our parties is whether they happen to be in office, or in opposition.

Some of the parties which have evolved and then faded away include the Greenbacks, Populists, Single Taxers, Prohibitionists, Know Nothings, Vegetarians, Progressives, Free Soilers, Dixiecrats, Anti-Masons, Socialists and others.

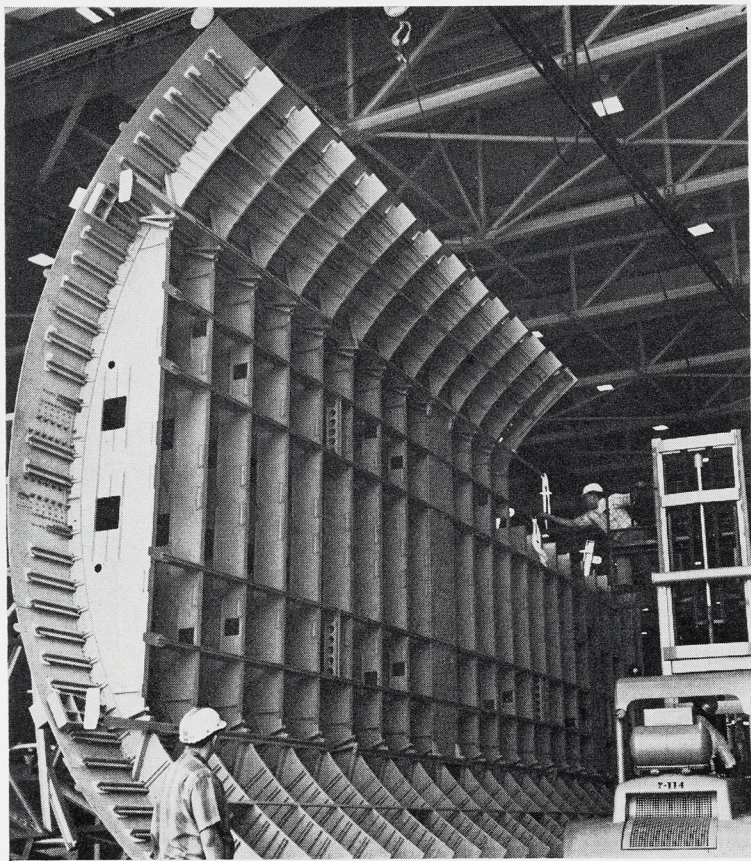
Both of our main parties have shifted position many times on many issues and undoubtedly will continue to do so when shifting social currents dictate.

It becomes obvious that the primary purpose of the political party organization is not to promote a special cause, or woo a special segment of the population, but to win elections and remain in office.

(NEXT: HOW THE PARTY FUNCTIONS)



# The First Boeing 747 Jetliner Takes Shape



Norair Readies An Assembly

The Boeing Company has completed mating of all major sections of the nation's newest and largest commercial jetliner—the Boeing 747.

Northrop Corporation's contributions to the 747 Program are extensive.

Northrop Norair designed and is building the 153-foot-long main passenger compartment in three major segments known as Sections 42, 44 and 46.

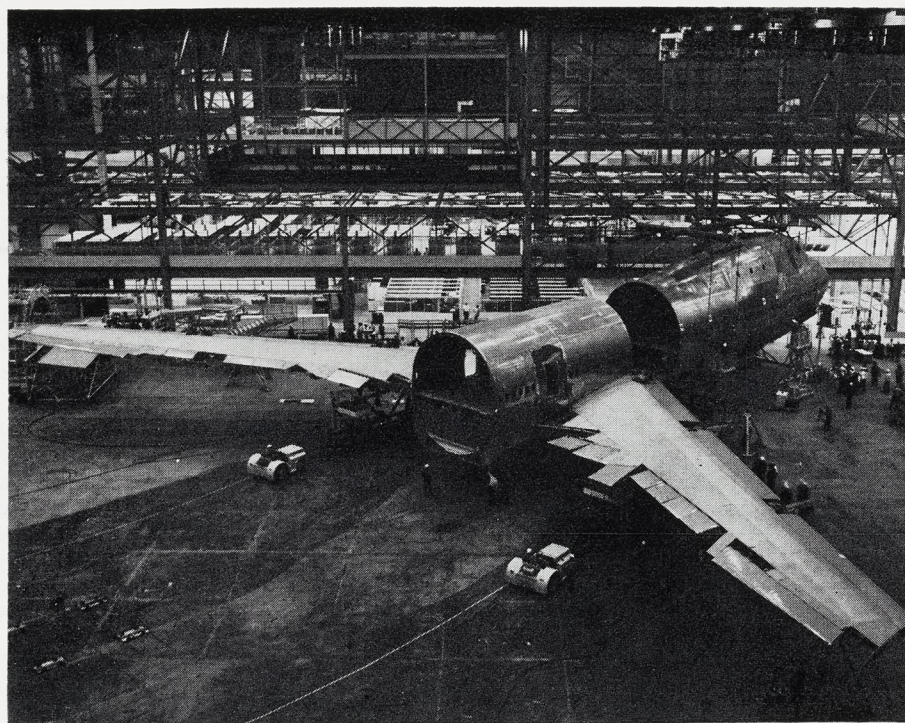
Nortronics Anaheim fabricates stringers, the longitudinally placed members of the fuselage skeleton.

Northrop Ventura is building fiberglass wing-to-body fairings for the 747.

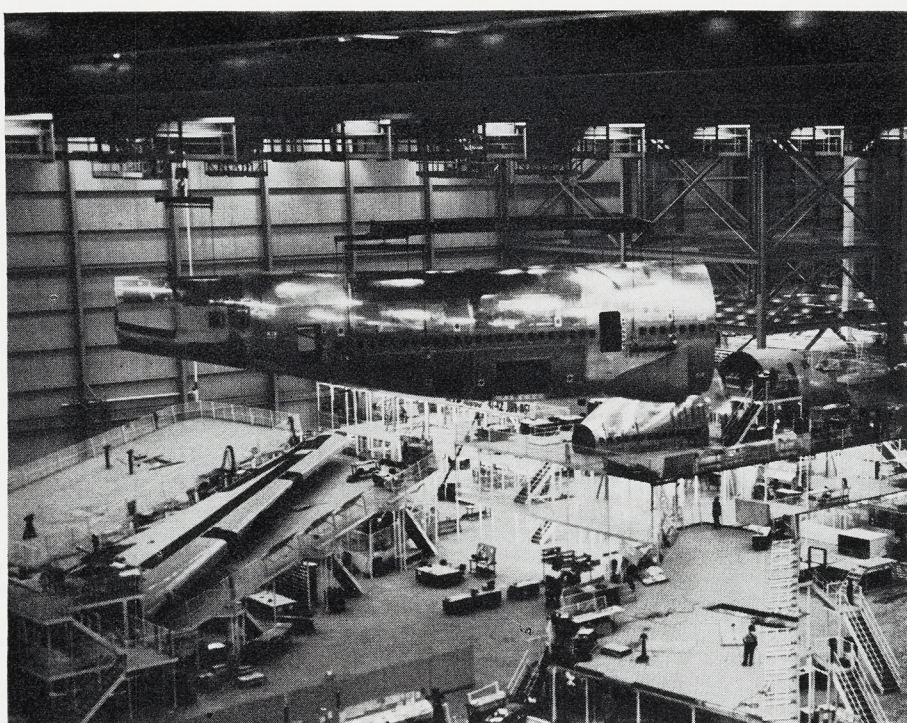
Northrop Architectural Systems produces a special sandwich-type flooring for use in passenger and cargo compartments.



Section 42 Mated To Nose



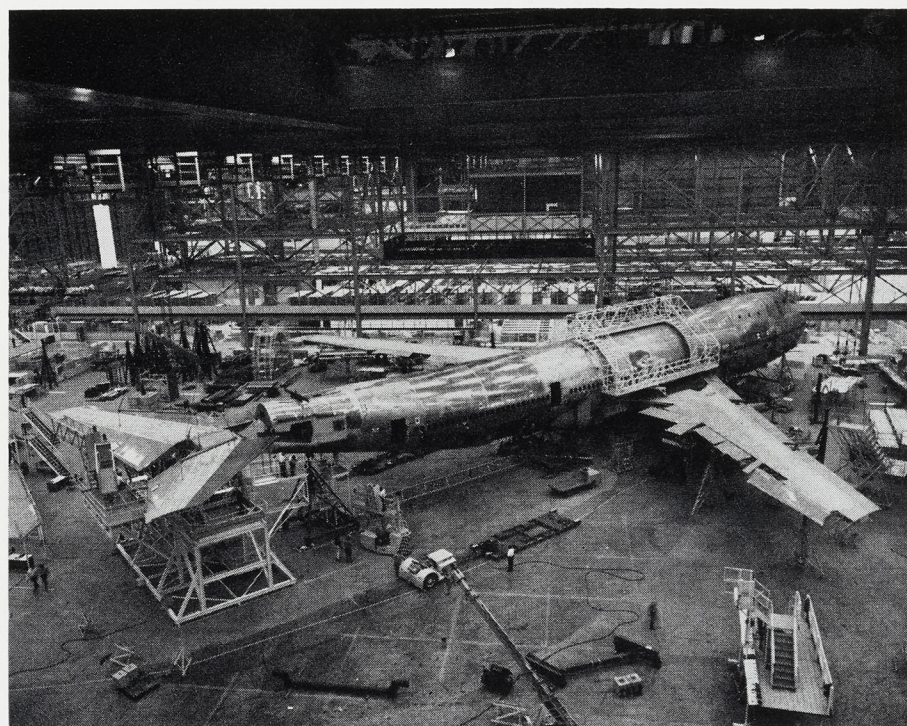
Section 44 In Place Over Wings



Section 46 Joined To Section 48



Three Major Sections Ready For Mating

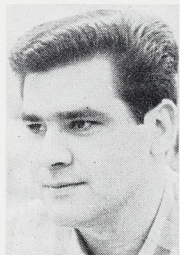


Horizontal Tail Assembly Next In Line



## WHAT DO YOU THINK?

### Which Qualities Do You Seek In a Presidential Candidate?



Mr. Leeds

**Earl Leeds, multilith operator, Ventura:**

I believe he should be a representative of the people. He should see if anything can be done about the war in Vietnam, and work to solve the race problem. He should be a person of decision, up-to-date on all issues in the United States and overseas.

**Louise Woods, secretary, Ventura:**

Money. He can't afford to campaign unless he is rich; can't be president unless he is rich. We need diplomacy, an almost dead art, now more than we need a military background. The old school of diplomacy should be re-born.



Mrs. Woods



Mr. Rusling

**Con Rusling, Payroll, Nortronics Anaheim:**

The biggest quality would be a sense of responsibility. He should have a knowledge of political workings. He should be a politician; otherwise he won't be elected. He should have experience in all fields—especially in legislative and administrative functions.



Mrs. Harris

**Beth Harris, mail clerk, Nortronics Anaheim:**

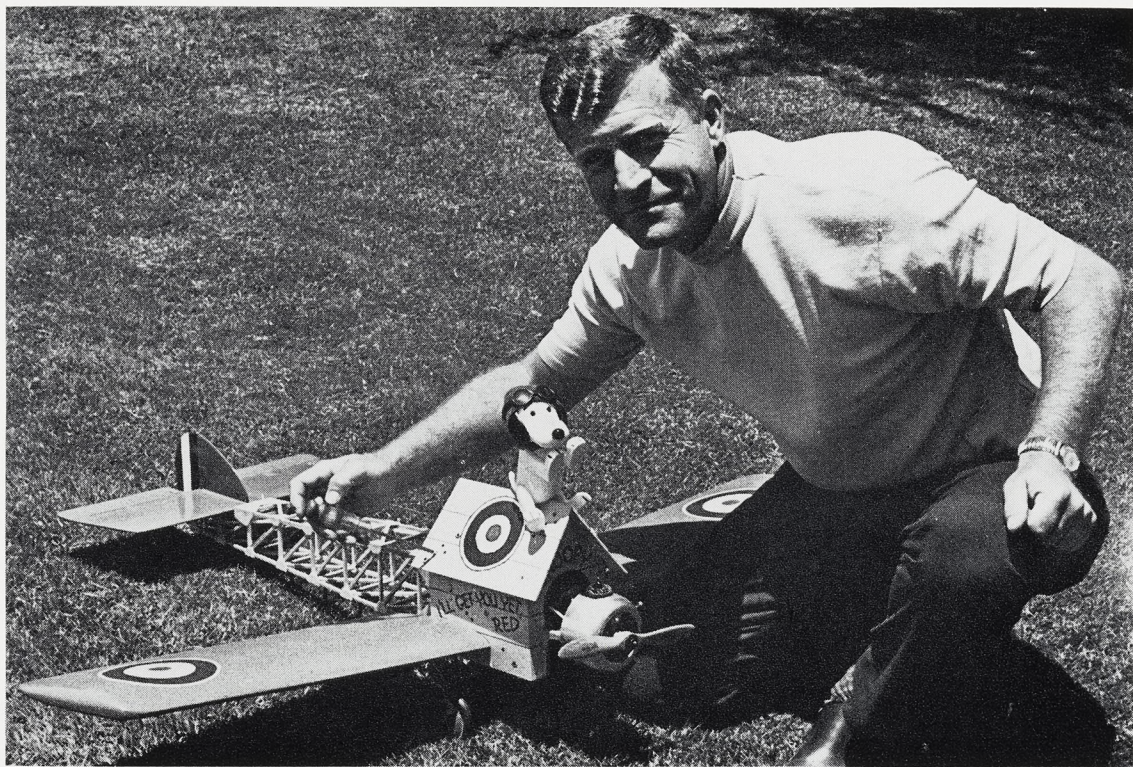
Honesty. Understanding. Straight-forward answers—not evasive. I hate an evasive person. Intelligence. A person who has warmth. I wish one of the candidates would have all of these qualities because not one of them has them all.



Mr. Bradley

**Lee Bradley, assembler, Electrical Mechanical Development Test, Ventura:**

Leadership mainly. The ability to keep the minds of the people on him; to run the country in a democratic way and perform all of his duties well.



'RED BARON' BEWARE—Nick Linardos of Norair makes final adjustments on this radio-controlled model airplane, called "Snoopy." Mr.

Linardos designed and built the model using his imagination, authentic data and the encouragement of his sons. Photo by Ron McGaffin.

## WITH SOPWITH MODEL

### Linardos Champions 'Snoopy' Cause

Snoopy, the comics canine, has found a champion in Nick Linardos, a Norair engineering specialist.

As every fan of the Peanuts strip knows, Snoopy is a born loser in his dreams of one day besting the legendary "Red Baron" in aerial combat. But his trusty doghouse, alias a Sopwith Camel, collects more bullet holes than honors.

Mr. Linardos, encouraged by his sons, John, 9, and Jim, 11, reasoned Snoopy could use a little applied advanced aeronautical technology.

So he has designed and built a radio-controlled model airplane, aptly named "Snoopy." It is a masterpiece of balsa, spruce, plywood, plastic and metal that spans the gap between the imaginary and authentic.

The Sopwith Camel was a British fighter of World War I vintage.

Mr. Linardos has copied its engine cowl, wing tips, tail surface and markings. The doghouse, with a helmeted and goggled plastic Snoopy perched atop, is pure comic strip, but remarkably lifelike in every detail.

Liberties were required. Mr. Linardos' "Snoopy" has a single wing, the Sopwith Camel had two. And the fuselage is uncovered. This allows the doghouse to be displayed to its best advantage.

Mr. Linardos altered his original design to allow his creation to be entered in a current Radio Control Modeler magazine design contest.

But the real objective—flight—is still pending. Preliminary

flight tests indicate "Snoopy" is underpowered. It will buzz along the runway at 15 mph and lift its tail, but has never been airborne. Work is under way to remedy the problem in the form of increased power and avionics of a lighter weight.

"Snoopy" has caught the fancy of Norair employees who have seen Mr. Linardos working on his design during lunch period. This has led to comments, suggestions and help from many sources.

Mr. Linardos mentions contributions made by John Kokalj, Ralph Seifer, Sheila Ondrasek, Carl Weyl and Ron McGaffin, all of Norair.

"Snoopy, the canine, has some real friends at Norair. 'Snoopy,' the airplane, is just a step away from first flight," Mr. Linardos says. "Maybe someone will come up with a DRI Fokker triplane for the 'Red Baron' and we can have this thing out once and for all."

## Bagpiper's Wail Haunts PV Parking Lot at Noon

Above the clatter of typewriters and the hum of voices rises the unexpected wail of a bagpipe each day at Nortronics Palos Verdes.

The music is not meant as a joke or as lunchtime entertainment. Rather, it is the carrying on of an age-old art in an unlikely time and place.

William Adams, jr., a contract cost analyst, plays 45 minutes at lunchtime in the visitors' parking lot, practicing old Scottish ballads. He practices at lunch because he is working for his master's degree and needs evenings for study.

Nevertheless, he manages to get in an hour of drill with the chanter, the flute portion of the bagpipe, each night. This is important, Mr. Adams says, because the finger work required to produce notes is the most difficult part of playing the bagpipes.

The bagpipe consists of the chanter, the bag and the drones, three pipes protruding from the bag which are supported on the piper's shoulder.

The chanter and the drones are made of wood and, in Mr. Adams' instrument, the bag is made of calfskin. Sheepskin, with

the wool still on it, is used for the bag in Scotland to keep moisture from freezing inside.

Mr. Adams became interested in the bagpipe when he heard a pipe band at the Seattle World's Fair. Two years ago, he bought a chanter and a year ago he finally began playing the full instrument.

He is a member of the Anderson Highlanders, one of many such bands in Southern California which participates in a regular series of bagpipe competitions.

Not only is Mr. Adams an enthusiastic player, but he is also somewhat of an historian on the tradition of bagpipe playing.

According to him, the bagpipe is the oldest known complex wind instrument in existence. In the western United States, the instrument has always been an oddity; but he says there has been a resurgence of interest in it in the last few years.

Still a novice player, Mr. Adams practices haunting Scottish tunes each noon with the goal of becoming a master player. Though his Scottish ancestors could not understand the time or place, they could certainly understand the music.

## Employee's Son Wins Physical Fitness Award

The 14-year-old son of a Nortronics employee has received five award certificates in a recent banquet at La Palma Junior High School in Buena Park.

Frank Algarin, son of Efrain Algarin, a multilith operator in Anaheim Reproduction, was one

of five candidates chosen, among a field of 611, to receive the Presidential Physical Fitness Award. The citation and emblem are presented only to those who meet rigid physical fitness and body conditioning standards.

Young Frank also is a four-letter athlete. He received letter awards for being: (1) a football quarterback, (2) a baseball shortstop, (3) a low and high hurdler and high jumper in track and (4) a basketball guard. He is a member of the junior varsity in all of these sports.



Frank Algarin



WEE BIT O' SCOTLAND sounds forth at Nortronics Palos Verdes during lunch period when William Adams, jr., practices playing his bagpipes. Kilts were added just for photographer.



# Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

## Automobiles For Sale

**Sunbeam**, 1958 Rapier, r/h, o/drive, \$225. 714-827-9356. A

**Dune Buggy**, roll bars, tow bar, belly plate, turn signals, 6 volt & 12 volt lights for towing, \$350. 213-370-6444. A

**Renault**, 1962 Dauphine Deluxe, 4-dr., \$275. 805-495-4304. A

**Volkswagen** 1300, 1966, \$1,400. 213-866-6615. A

**Barracuda**, 1967, h/top, r/h, w/s/w tires, extras, 4 yrs. left on guarantee, 3-spd. trans., lge. slant 6 eng., \$1,775. 213-397-1638. A

**Buick**, 1963 Riviera, vinyl top, stereo tape, new brakes, \$1,500. 213-370-9170. A

**Pontiac**, 1956 convt., r/h, new top & batt., \$175. 213-644-3024. A

**Chevrolet**, 1956, 4-dr., 283 V-8, \$150. 213-370-3132. A

**Pickup Truck**, 1956 Ford, new chrome, ready for paint, \$975. 213-429-1114. A

**Porsche**, 1967, 912, 5-spd., chrome whls., Radial tires, AM-FM Blaupunkt radio, \$4,200. 714-527-1996. A

**Volkswagen**, 1957 sedan, needs eng. & body work, \$175. 213-372-7875. A

**Buick**, 1963 Skylark, auto., p/s, r/h, \$1,050. 213-761-9546. A

**Station Wagon**, 1957 Ford, \$100. 213-327-5747. A

**T-Bird**, 1960, p/s, p/w, p/b, r/h, 10,000 on rebilt. eng., needs radiator & paint, \$400. 213-377-5853. A

**Chrysler**, 1957, Windsor, 4-dr., \$100. 213-755-8018. A

**Chevrolet**, 1959 Impala h/top, 283 eng., auto., r/h, \$350. 213-323-1750. A

**Ford**, 1964 Galaxy, 4-spd., new tires & brakes, \$1,300. 213-675-5963. A

**Ford**, 1930 Model A coupe, restored, \$1,500. 714-894-2566. A

**Chevelle**, 1966, 427, 4-spd., many extras, \$2,200. 213-329-5422. A

**Volkswagen**, 1964, rebilt. eng., \$975. 213-677-2034. A

**Pickup Truck**, 1960 Ford, 1/2-ton, 6 cyl., stick, w/telephone utility bed & ladder rack, \$495. 213-370-4315. A

**MG Midget**, 1965, Michelin tires, radio, \$1,200. 213-378-5936. A

**Pickup Truck**, Chevrolet, 1952, 1/2-ton, w/camper, \$250. 213-371-3409. A

**Valiant**, 1961, 4-dr., r/h, good tires, \$65. 213-323-9887. A

**Mustang**, 1966, r/h, V-8, stick, a/c, \$1,800. 213-968-2856. A

**El Camino**, 1965, 327 eng., 4-spd. floor shift, r/h, tachometer, \$1,500. 213-644-4855. A

**Mustang**, 1966, 2+2, 4-spd., big eng., \$2,000. 213-377-7670. A

**Camper Van**, Chevrolet, 1967, V-8, std. trans., factory installed camper unit, \$2,600. 213-672-4231. A

**Chevelle**, 1965 Malibu, V-8, 4-dr. sedan, p/s, auto., good tires, new brakes, \$1,385. 213-756-4702. A

**Station Wagon**, 1959 DeSoto, p/s, p/b, \$175. 213-328-2159. A

**Buick Skylark**, 1963 V-8, auto. trans., p/s, radio, \$1,000. 213-830-6163. A

**Falcon**, 1961, 4-dr. sedan, auto. trans., 43-000 mi., r/h, \$195. 213-679-3889. A

**Karmann Ghia**, 1963, AM-FM radio, \$995. 213-454-2198. A

**Volvo**, 1964, P1800 spt. cpe., chrome whls., r/h, o/drive, \$2,300. 714-635-5912. A

**Station Wagon**, 1959 Ford, auto. trans., a/c, r/h, w/s/w tires, \$295. 213-634-6000. A

**Mercury**, 1962 Monterey Custom, 4-dr., 51,000 miles, fact. air, \$795. 213-629-4111. A

**Cadillac**, 1963 Fleetwood 60 Special, full power, air, fact. cast alum. wire whls., \$1,995. 213-541-1321. A

**Camper**, 1965 Volkswagen, awning w/sides, ice box, stove, water tank, \$1,595. 714-962-1805. A

**Station Wagon**, 1961 Ford, 10-pass., \$195. 213-377-4943. A

**Chevy II**, 1963 Nova convt., S.S., r/h, p/s, auto. trans., \$650. 213-379-1873. A

**Mercedes Benz**, 1960 300 SL rdstr., Decker-Mexico AM-FM, Pirelli tires, tonneau, spare parts, tools, shop manuals, \$5,000. 213-799-3170. A

**Ford**, 1957, V-8, 4-dr. sedan, needs paint, \$85. 213-774-4281. A

**Corvette**, 1964, 327 cu. in., 4-spd., AM-FM-vibrasonic radio, \$2,500. 213-581-5068. A

**Ford**, 1958 Tudor sedan, 6 cyl., std. shift, 74,000 miles, \$100. 213-377-9666. A

**Volkswagen**, 1966, 2-dr. f.b., r/h, fact. air, 20,600 mi., \$1,625. 213-329-1905. A

**Truck**, 1965 Ford, 1/2-ton, 3-spd., V-8, \$1,185. 213-376-5553. A

## Household Items For Sale

**Dryer**, Frigidaire, elec., \$30. 213-363-6617. B

**Tables**, white limed oak, step end, matching coffee table, Valspar finish, \$25. 213-675-9530. B

**Washing Machine**, Kenmore, new pump, self-cleaning filter, model 70, \$100. 213-644-5449. B

**Twin Bed**, maple, 4-poster, box spring & mattress, \$35. 213-672-8468. B

**Blanket**, elec., Sears, dble bed, single control, gold, acrylic, \$13. 213-676-7766. B

**Cabinet** for TV & stereo, custom-made in Hong Kong, ebony teak, hand-carved panels & doors, 7' long, \$388. 213-329-0086. B

**Range**, Gaffers & Sattler, gas, 4-burner & grill, \$45. 213-676-9855. B

**Piano**, Weaver bungalow spinet, mahogany, full keyboard, full-size sounding board, \$425. 213-645-4208. B

**Piano**, Janssen, spinet, upright, mahogany finish, full keyboard, \$295. 714-535-1397. B

**Dining Room Set**, 42" dropleaf ext. table, 42"x72", w/2 fills, extends to 96", 4 Windsor fiddleback chairs, solid birch, \$175. 213-675-3957. B

**Range**, elec., white, \$25. 714-549-2763. B

**Rocker**, spring-swivel, gray tweed, \$20. 213-323-8089. B

**Dishwasher**, G.E. portable, coppertone, \$110. 805-498-4237. B

**Refrigerator**, Admiral, 1 1/2 yrs. old, \$95. 213-534-3410. B

**Dinette Table**, gray, 6 chairs, \$40. 213-676-6503. B

**Table**, round, dble. deck, maple, \$30. 213-675-5522. B

**Table Lamps**, matching pr., Empire design, 39" tall, \$15 or sell sep. 213-679-1631. B

**TV**, 1963 21" RCA, b&w console, \$65. 213-320-6272. B

**Sectional**, 4 pc., \$150. 213-662-5388. B

**Dressing Table**, baby's, w/4 wicker baskets, \$8. 213-835-3869. B

**Piano**, fruitwood, provincial, 2 yrs. old, \$500. 714-774-3751. B

**TV**, 21" Hoffman, b&w, mahogany cabinet w/doors, new tubes, \$35. 213-675-5258. B

**Headboard**, & bed frame, solid oak, dble. size, \$12. 213-674-4271. B

## Miscellaneous For Sale

**House**, 4-bdrm., 2 baths, patio, fireplace, b/wall, 15 min. to Northrop, \$29,500. 213-320-6975. C

**Camera**, Polaroid 103, w/flash, carrying case & color film, \$60. 714-897-8447. C

**Organ**, electronic, Conn, w/bench, \$1,100. 213-675-0521. C

**Triplex**, 2 bdrms. each, near shopping center, carports, laundry rm., h/wood floors, \$40,000. 213-537-3098. C

**Acreage**, 7 1/2 acres, near Victorville & Feather River Lake, \$500 dn., \$50 mo., \$5,750. 213-327-8046. C

**Motorcycle**, 1948 Velocette, 500 cc, \$50. 213-671-9657. C

**House**, 2-bdrm., fireplace, cpts., lge. yard, close to grade school, in North Inglewood, \$22,750. 213-645-4163. C

**House**, 2-bdrm., 2 baths, patio, gar. & extras, disposal, 2 blocks from beach, \$25,000. 213-679-7909. C

**Earphones**, complete w/jack, \$20. 213-673-1133. C

**Sailing Sloop**, 11', R-11 class, wood covered w/fiberglass, inc. trailer, boat cover, \$500. 213-375-3902. C

**Honda**, 1968, Superhawk, 305 cc, Continental hand grips, rack, \$580. 213-673-0859. C

**Utility Trailer**, 6x7, adj. height, \$125. 213-325-8478. C

**Boat**, 16', Horizon, all glass, w/Merc. 1000, trailer, many extras, \$1,375. 213-326-4944. C

**Tires**, 2 Goodyear Blue Streak racing slicks, 11.00x16, \$30 ea. 213-676-2162. C

**Motorcycle**, Honda 150, starter, \$250. 213-325-3724. C

**Lot**, 1/2 acre beach property, near Redwood Nat'l Park, 15 mi. so. Oregon border, \$1,000 equity, \$1,400 bal., \$2,400. 805-942-5306. C

**Acreage**, 2 1/2 acres, near Twenty-Nine Palms, one mile from proposed Sportsman's Center & lake, \$2,000. 213-677-3471. C

**Formal**, mint green, floor length, white lace empire top, sleeveless, crepe bottom, size 7, jr. petite, \$12. 213-755-7255. C

**Poodle**, white, miniature, papers, 1 1/2 yrs. old, shots, \$25. 213-644-3429. C

**Car Top Carrier**, enclosed, \$15. 213-644-3116. C

**Guitar**, Fender stratocaster, \$200. 213-371-9925. C

**House**, 3-bdrm., 15' sq. living rm., 13x23 rumpus rm., 2-story, bitins, d/washer, fenced, 20 min. from Northrop, 2 baths, cpts., dps., \$33,000. 213-635-3056. C

**Boat**, 12', 40 h.p. Mercury, elec. start, \$325. 213-672-7978. C

**Camper**, 1965 Cab-O-Tel, w/cargo door, boat rack, other extras, \$250. 213-371-2948. C

**Surfboard**, Bing, 8'11", \$20. 213-375-5097. C

**Fall**, dark brown, 18", \$50. 213-398-5807. C

**Tape Recorder**, Sony 530 model, 1 yr. old, \$225. 213-325-7936. C

**Cello**, w/case & bow, \$165. 213-479-1432. C

**Pup**, chihuahua, male, 3 mos. old, AKC pedigree, has distemper shots, \$65. 213-545-3941. C

**Motorcycle**, 250 cc, Big Bear, \$375. 213-863-0761. C

## Miscellaneous For Sale

**Stove**, 2-burner Coleman, Coleman lantern & J. C. Higgins ice chest, \$30. 213-371-1905. C

**Motorcycle**, 1966 Yamaha Big Bear Scrambler, \$400. 213-324-7698. C

**Generator**, d/b 1,000 watt gasoline-powered portable, \$50. 213-581-0863. C

**Surfboard**, Hot Curl, 2 mos. old, 9'7" long, \$105. 213-862-3095. C

**Ski Boat**, trailer, 13' Wizard, fiberglass, no motor, \$260. 213-378-3055. C

**Sand Sailer**, 10' custom, \$150. 213-377-5862. C

**Chain Saw**, Homelite, 22" & 36" cutting bars, \$65. 213-676-3379. C

**Pups**, kerry blue terrier, AKC champ. sired, \$150. 714-879-7276. C

**Honda**, 1967 CB 160, \$400. 213-674-1829. C

**Surfboard**, 10'9", wet suit, car racks, \$100. 213-325-6605. C

**Lot**, view, Palos Verdes Ests., completely improved w/frontage on 2 existing streets, \$26,950. 213-431-7058. C

**Acreage**, in Malibu Canyon, 1 to 3 acre parcels, \$7,000-\$10,000 acre. 213-671-8401. C

**Camera**, Mamiya C-3, 2 1/4x2 1/4 twin lens reflex, 105mm lens, case, \$90. 213-596-9819. C

**Cemetery Lot**, Resthaven, Inglewood, dble. interment, \$700. 714-521-0416. C

**Boat**, 14' runabout, fiberglass, 60 h.p. o/board Evinrude eng., trailer, extras, \$900. 213-644-4894. C

**Wedding Ring**, 2, matched, white & yellow gold, 2 diamonds in each ring, \$100. 213-675-6186. C

**Car Top Luggage Carrier**, vinyl covered w/small padlock, used 1 week, \$15. 213-679-6792. C

**Tumbler**, room for 2 1 gallon cans, \$10. 213-322-5097. C

**Racing Bicycle**, Legnano-Campagnolo equipped, Pirelli tires, \$65. 213-376-5139. C

**House**, 3-bdrm., 1 bath, 2-car gar., covered patio, cpts., dps., new stove, freshly painted, \$23,000. 213-867-6880. C

**Airplane**, Cessna 140, all metal, 2 radios, 260 s.m.o.h., at Hawthorne Airport, \$2,450. 213-397-8114. C

**Accordion**, 120 bass, D'Scala, case, amplifier cord, \$250. 213-341-8056. C

**Trailer**, 9' alum. teardrop, sleeps 2, water tank, storage box, ice box, extras, \$190. 714-839-5730. C

**House Trailer**, completely furn., at Mammoth Mtn., \$350. 213-545-6114. C

**Trailer**, sleeps 4, has 10' ext., refrig., stove, \$350. 213-632-1666. C

**House**, 3-bdrm., 1 1/2 bath, lge. kitchen, ash cabinets, cpts., dps., acoustic ceilings, fenced yard, w/fruit trees, 2 1/2-car gar., new roof & paint, stucco, \$27,500. 213-679-2771. C

**Stereo Components**, Eico, HFT-90 FM tuner, HF-85 preamp, HF-86 28 watt amplifier & MX-99 multiplex adapter, \$75. 213-439-6432. C

**Home**, 4-bdrm., 2 baths, 2-car gar., lge. fenced in yard, near schools & Garden Grove Fwy., \$21,995. 213-676-4203, 714-839-1053, 213-581-5208. C

**Oscillating Fan**, 10" elec., \$7.50. 213-876-7902. C

**Tires**, 2 7.75x14 retreads, tubeless w/wall, \$7.50. 213-674-7743. C

**Motorcycle**, 1964 Honda Tourist, 305 cc twin, 12,000 miles, \$250. 213-378-2965. C

**Spinning Reel**, Interceptor, open face, salt water compact, used once, \$6. 213-370-9037. C

**Home**, 3 bdrm., fam. rm., patio, near schools & shopping area, \$23,750. 213-755-7521. C

**Telescope Gauge**, Lufkin, 1/2-3/4, \$2. 805-498-3549. C

**Apt. Bldg.**, 8-unit & house, all 1-bdrm., 66 x 300 lot, 8 carports & 1 dble. closed gar., less than 10 yrs. old, 1 1/2 mile from Northrop, \$69,500. 213-677-4388. C

**Sailboat**, 28' sloop, sleeps 4, inbd. eng., main, jib, genoa & spinnaker, \$5,000. 213-378-4352. C

**Picnic Table**, 3 ft. wide, 12 ft. long, \$10. 213-672-3460. C

**Home**, 4-bdrm., 2 1/2 baths, formal dining or family rm., cpts., dps., \$27,450. 714-532-1510. C

**Motorcycle**, 1962 Honda 150, recent o/haul, \$225. 213-377-5450. C

**Boat**, Utility, 18', 50 h.p., Evinrude, big whl., tilt trailer, portable bait tank, \$775. 213-679-8687. C

**Power Amplifier**, stereo, 50 watts per channel, \$85. 213-326-6195. C

**Golf Clubs**, woods, 1, 3 & 4, Goldcraft, glass, med. shaft, D-4, \$55. 213-545-2047. C

**H. O. Train Layout**, approx. 60 misc. cars, 5 engs., switch tracks, turntable, 3 power packs, mounted on 4'x10' panel, \$85. 213-291-0025. C

**Tape Recorder**, Martel, portable, used once, battery or 110 V, all attachments, \$45. 213-372-1445. C

**Boat**, 10', glass o/wood, \$50. 213-327-4585. C

**Motorcycle**, Buellaco Sherpa, 200 cc, rebilt. eng., clutch, desert-street equip., \$375. 213-545-5023. C

**Bunnies**, Dutch, 5 wks. old, \$1.50. 714-539-2262. C

**Apts**, 8 2-bdrm., \$810 mo. income, \$74,000. 213-837-0989. C

**Acreage**, 5 acres in Antelope Valley near Willow Springs, \$35 dn., \$35 mo., 6% interest, \$3,500. 213-378-1026. C

**Mini-Bike**, 8 h.p. West Bend, lights, horn, dual tanks, racing seat, \$135. 213-393-5649. C

**Shotgun**, 16 ga., Remington Sportsman 48, modified choke, semi-automatic, gun case & box of shells, \$65. 213-751-6727. C

## Miscellaneous For Sale

**Boat**, 15', new Chrysler outbd., 55 h.p. w/trailer, never been in water, \$1,550. 213-679-7966. C

**Sloop**, Cal 20, equipped for cruising, \$3,100. 213-275-7168, 213-378-1561. C

**Motorcycle**, 1966 Yamaha, YDS-3, 250 cc, \$350. 213-323-7544. C

**Collie**, 6 mos. old, tri, AKC, \$50. 213-370-4475. C

**Home**, 5-bdrm., 2-story, 2 full baths, fireplace, patio, fenced yd., cpts., dps., 20 min. from Norair, \$33,500. 213-632-3623. C

**Lawnmower**, rotary, Briggs & Stratton, \$50. 213-321-0020. C

**C.B. Radio**, base station, General MC-7, 23 channels + Civil Air Patrol, all crystals supplied, \$125. 213-398-3278. C

**Fishing Boat**, 12' glassed, inc. marine permit, trailer, \$125. 213-379-9584. C

**Encyclopedia**, set, 1966 Americanas, 30 vols., & set of The Harvard Classic, 51 vol., walnut bookcases, never used, \$350. 213-323-1192. C

**Snare Drum**, Gretsch, blue sparkle, w/case & stand, 8 lugs, \$55. 213-325-3452. C

**House**, 3-bdrm., 2 baths, pool, lge. covered patio, bitins, cpts., dps., Rolling Hills ests., 10% dn., \$43,500. 213-375-8778. C

**Honda**, 1967 Sport 50, w/center tank, new knobby tire, 4,000 mi., McHal helmet, \$175. 213-236-0206. C

**Home**, 3-bdrm., corner lot, \$21,500. 714-826-4566. C

**Record Player**, RCA auto., 45 rpm, changes 10 records auto., inc. records, \$20. 213-325-5245. C

## Wanted to Buy

**Rifle**, Winchester, 25/35, carbine or long barrrell, 213-323-4257. D

**Encyclopedia**, set, in good condition, Americana, Britannica or Colliers. 213-633-4600. D

**Weights**, set, for boy 14 yrs. old. 213-329-4200. D

**Pool Table**, wood or slate. 213-374-4703. D

**Generator**, portable gas-driven elec., 2,500 watts minimum. 213-674-7293. D

**Stove**, Coleman 3-burner & Mark IV auto air conditioner. 213-396-3825. D

**Record Rack**, round, Danish modern or similar dark wood. 213-677-7745. D

**Golf Clubs**, men's, reasonable price. 213-378-3600. D

**Air Cooler**, for auto, water evaporation type, for 12 volt system, reasonable. 213-321-1655. D

**Bicycles**, 2 women's 3-spd. 26", fair to good condition, or 1 man & 1 woman's. 213-373-5068. D

**Surfboard**, 9'6"-9'8". 714-871-0880. D

**Pup**, German shepherd. 213-379-8090. D

**Golf Clubs**, women's, bag & cart, also, men's golf bag. 213-545-1676. D

**Rod & reel**, salt water, deep sea. Box 1401. D

## Free (To Be Given Away)

**Swing Set**, 3" pipe, has to be set in concrete, needs new seats. 213-326-7528. F

## Rentals Offered

**Cabin**, Lake Gregory area, sleeps 6, \$70 wk., \$25 w/end. 213-545-6313. G

**Cabin**, Green Valley, \$25 w/end; \$45 wk. 213-324-0649. G

**Camping Equipment**, 9x9 tent, \$6 wk.; 10x12 tent, \$12 wk.; stove, lantern, cots ea. \$2.50 wk. 213-839-7145. G

**Home**, 2-bdrm., dps., cpts., 2-car gar., bitins, d/washer, trash & water paid, no small children, \$150 mo. 213-379-6714. G

**Apts**, 3 blocks from ocean, cpts., dps., bitins, piped music, bltin vacuum, gar. w/storage cabinets, 1-bdrm. \$110-\$125; 3-bdrm., 2 baths, \$175. 213-372-8835. G

**House**, 1-bdrm., unfurn., all utilities paid, adults, \$95 mo. 213-675-1776. G

**Cabin**, Lake Arrowhead, close to lake & village, fireplace, patio, \$60. 213-761-9645. G

## Rides and Riders

### Rides Wanted

**7 a.m. — 3:42 p.m.**  
**Manchester & Crenshaw Blvd.**, Los Angeles. Shirley C. Porter, Norair, ext. 4503, 4936, 213-752-5823.

### 7:30 a.m. — 4:12 p.m.

**Hawthorne Blvd. & Century Blvd.**, Inglewood. Irene McCarthy, Norair, ext. 1581, 213-672-7506.

**Sunset Blvd. & San Diego Freeway**, Brentwood. Thomas F. Cook, Norair, ext. 4265, 213-826-3061.

### 8 a.m. — 4:45 p.m.

**Westminster Ave. & Springdale St.**, Westminster. Jack A. Moberg, jr., Norair, ext. 2125, 714-893-3361.

**Golden West & Bolsa**, Huntington Beach. C. T. Donato, Norair, ext. 1481.

### Rides Offered

#### 8 a.m. — 4:45 p.m.

**Westminster Ave. & Springdale St.**, Westminster. Jack A. Moberg, jr., Norair, ext. 2125, 714-893-3361.

**Golden West & Bolsa**, Huntington Beach. C. T. Donato, Norair, ext. 1481.

### Rentals Offered

**Cabin**, A-frame, furn., sleeps 5, 40 miles west of Colorado Springs, close to stream & lakes, \$70. 213-894-1937. G

**House**, 4-bdrm., 1 3/4 baths, just remodeled, new cpts., dps., near Northrop, \$225 mo. inc. water & rubbish removal. 213-833-2512.

**Cabin**, Green Valley Lake, \$35 w/end; \$55 wk. 213-320-2002. G

**Bachelor Apt**, 1/2 block from Northrop, utilities pd., \$80 mo. 213-675-6481. G

**Cabins**, Lake Gregory & Crestline, sleep 6, make reservations now, \$25 w/end; \$60 wk. 213-391-2040. G

**House**, 3-bdrm., 2 1/2 baths, cpts., dps., bitins, 5 yrs. old, 2-ton a/c, 3 patios, lease option avail., N.E. Orange, \$225 mo. 213-845-9615. G

**House**, 3-bdrm., 1 3/4 baths, family rm., lge. living rm. w/fireplace & music rm., patio, fenced yd., walking distance to Northrop Hawthorne, \$250 mo. 213-755-5149. G

**Cottage**, Ocean Bch., San Diego, near Mission Bay, \$65 wk. 714-826-2007. G

**Cabins**, Idyllwild, 1 & 2 bdrms., fireplace, stream, patios, \$50-\$80 wk. 213-754-5288. G

### Rentals Wanted

**Garage** for storage. 213-679-7840. H

**Garage**, near Anaheim Facility. 213-782-5481.

### Child Care

**Child Care** offered, all ages, hrs., day or week, lic. home, 10 min. from Norair. 213-644-3817. I

### Lost

**Ring**, family signet, black on yellow gold, Plant I or III, approx. June 20, reward. 213-363-9284. J



## NV in Fall Aerodynamic Conference

Seven Northrop Ventura men will participate in the second Aerodynamic Deceleration Systems Conference, September 23 through 25, at the Naval Air Facility, in El Centro.

Sponsoring the scientific and technical meeting are the American Institute of Aeronautics and Astronautics, and the Department of Defense's Joint Parachute Test Facility.

Theodore W. Knacke, a member of the Ventura Technical staff, is chairman of the Technical Committee on Aerodynamic Deceleration Systems. He has been preparing the conference program and coordinating it with the AIAA and DOD.

Six other Venturans participating will present papers.

Al Johnson, D. C. Beery and Seth Lewis, all of Reliability Engineering, will deliver "Reliability Engineering for the Apollo Parachute System."

Robert V. Lashbrook and C. M. Mabry, both of Materials Engineering, will present "An Investigation of Low Permeability Fabrics and of Suspension and Control Lines for the Limp Parawing."

David Gold of Fabric Design will discuss "Early Development of the Manually Operated Free-Fall Parachute, 1900-1925."

Scientists and engineers in attendance will represent Australia, Canada, England, France and the United States.

### MQM-74A

(Continued from page 1)

need by U.S. military forces for a medium-performance target for surface-to-air gunnery and missile practice. It will provide realistic target training for crews operating 40mm, 20mm or 50-caliber guns, as well as the Hawk, Redeye, Chaparral and other missiles.



**LAST-MINUTE CHECKOUT**—Ken Osborne of Northrop Ventura Quality Control checks the hatch cover of the Apollo Command module, before the seventh drop test of the Apollo boiler-

plate at Naval facilities in El Centro. The test took place on July 3. All seven tests in the series have been successful. Photos by Jim Crowley.

## NASA Officials Attend Parawing Design Review

Representatives of National Aeronautics and Space Administration's Langley Research and Manned Spacecraft Centers were at Northrop Ventura last week, for the second formal design review on Ventura's Parawing.

Ventura is building and testing Parawings for NASA's Langley Research Center, to determine their feasibility in manned spacecraft programs.

Program Director Robert L. Jennings called the two-day meeting "a comprehensive review of our progress to date—from the beginning of the program to our plans for the future."

The NASA representatives — there were 18 — were greeted by George Grogan, vice president and manager of the Engineering department, and John Moeller, Parawing chief project engineer. On Wednesday, Theodore Knacke of the Technical staff briefed the

group on "Northrop Ventura Independent Parawing Technology Studies and Analyses."

Carey Buhler, project engineer for System Integration, showed a motion picture of drop tests on the small scale Parawing, taken at the El Centro Naval Test Facility in the spring. He also discussed design requirements and goals of the intermediate scale Parawing, and possible design considerations on the full scale Parawing.

The intermediate scale vehicle, upon which testing will begin within the next few weeks, is designed to land payloads up to 6,000 pounds. It will be dropped from either a C-130 or B-66 aircraft at altitudes between 6,000 and 23,000 feet.

A full scale Parawing, not yet fabricated, will be intended to support payloads up to 18,000 pounds.

### NEW FEDERAL TAX RATES IN EFFECT

Paychecks distributed to Northrop personnel after July 14 will reflect the new federal income tax surcharge of 10 per cent.

Most employees will find their weekly withholding tax deduction increased by approximately 10 per cent, but this may vary in individual cases.

The new tax law is retroactive to April 1. Since Northrop did not start deductions under the new rate until July 14, some employees will find they are under-withheld for the total year. Special forms, available from department clerks, can be used to authorize additional deductions to offset this situation.

### APOLLO

(Continued from page 1)

Northrop Ventura designed and built the landing systems for the Mercury and Gemini space programs, as well as Apollo.

## Management Club Invites Boeing Leader to Speak

One of The Boeing Company's key 747 Program executives will speak next week before members of the Northrop Ventura Management Club.

James Blue, director of Program Management for the 747, will discuss Northrop's participation in the production of the giant jetliner, at the July 25 dinner meeting.

The site is the Los Robles Inn in Thousand Oaks. Social hour will be from 5:30 to 6:30 p.m., followed by dinner. Mr. Blue will speak at 7:15.

Northrop Ventura is building wing fairings for the 747. Norair is manufacturing a 153-foot section of the fuselage, and Nortronics is fabricating body stringers. Northrop Corporation is the largest 747 associate contractor to The Boeing Company.

Ron Lancaster, Management Club president, said reservations must be made before the meeting. They may be placed with Nancy Smith, ext. 1115; Bertha Rose, ext. 213; or Lupe Zuniga, ext. 368.

## Registration For NV Blood Bank To End Friday

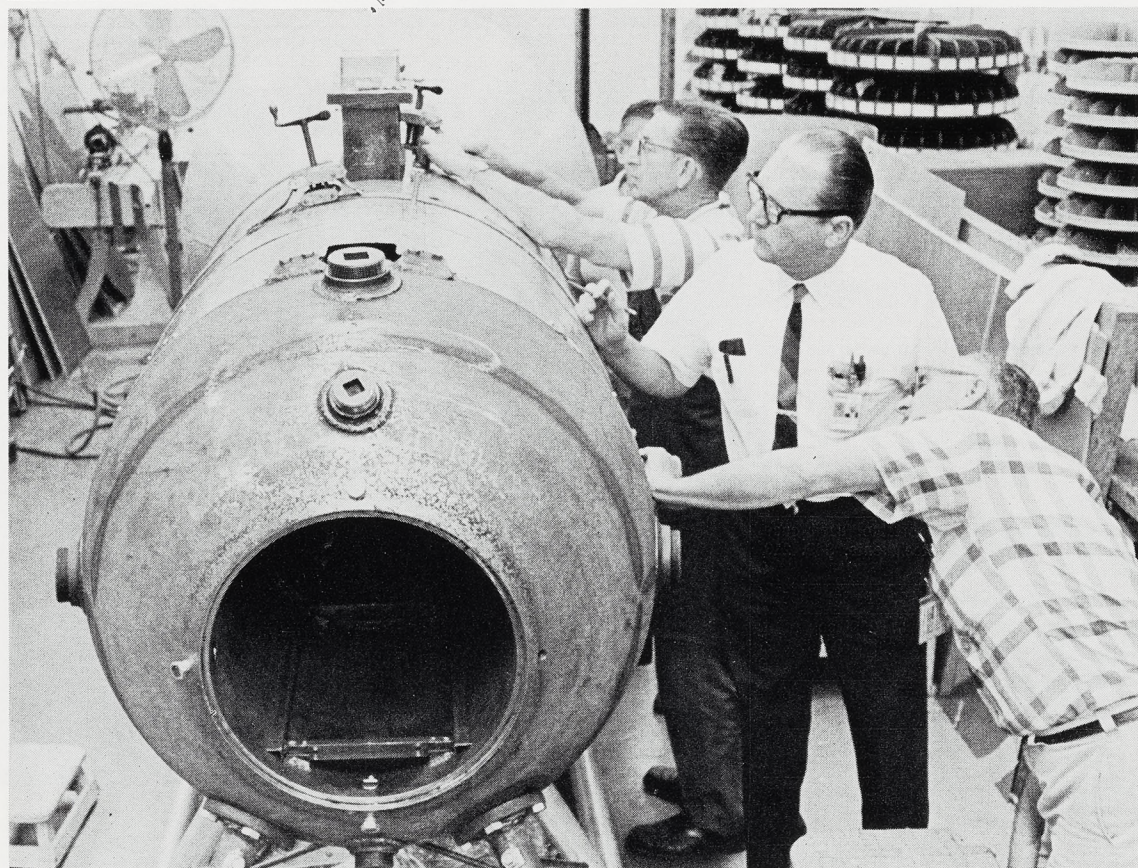
The deadline for registering to donate blood next week has been extended to 3:30 p.m. Friday, according to Elinor Eckels of Medical Services.

Northrop Ventura's annual blood bank has been scheduled for 8 a.m. to noon, July 25, in the Administration Building assembly room.

Less than 200 employees have signed up to donate, Mrs. Eckels said, and a larger response is needed to replenish the Northrop Ventura account.

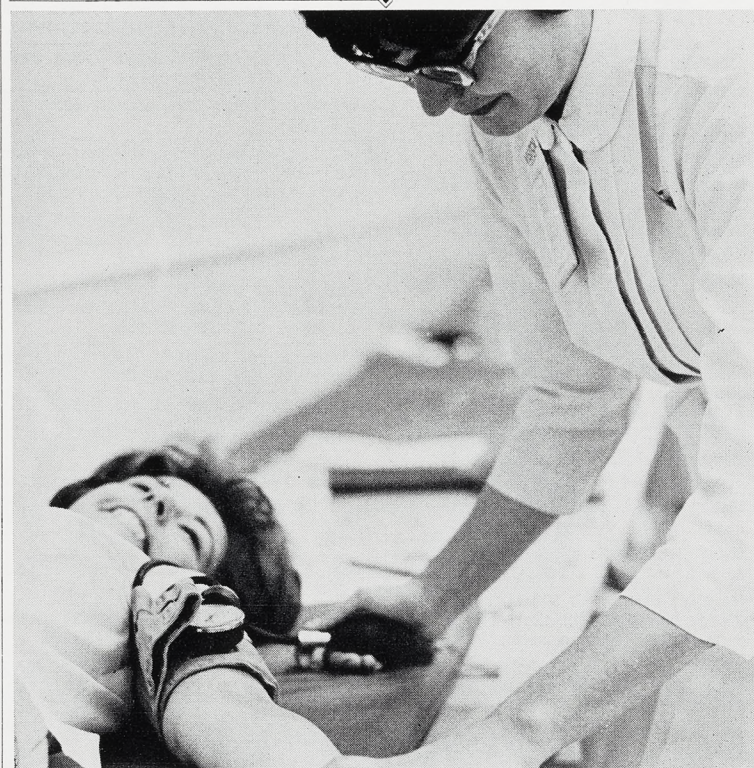
"We need many more pints of blood," Mrs. Eckels said, "if we are to sustain our account with the blood bank."

Registration information may be obtained by calling Medical Services on ext. 234.



**INTERMEDIATE PARAWING VEHICLE** — Northrop Ventura technicians finish work on a test vehicle for the intermediate scale Parawing, which will be tested soon. This photograph was

taken just before the test vehicle was painted. The intermediate scale Parawing will be tested with payloads up to 6,000 pounds.



**WILLING DONOR**—Nancy Smith chats with a nurse while giving blood at a Northrop Ventura blood bank. Annual blood drive is scheduled for 8 a.m. to noon, July 25, in the Administration Building assembly room. Registration for donating blood may be filed through 3:30 p.m. Friday.



# NORTHROP NEWS

VENTURA DIVISION EDITION

Northrop Corporation, Beverly Hills, California

Vol. 26, No. 15

July 31, 1968

## Boeing Official Praises 747 Program Craftsmen

Major contractors on the Boeing 747 program were praised for the quality of their craftsmanship by an executive of The Boeing Company last week.

Addressing the Northrop Ventura Management Club Thursday night in Thousand Oaks, James A. Blue, director of program management—747 program, told 190 members and guests that the first 747, made up of assemblies and components from all over the country, fit together during assembly at Everett, Washington, so perfectly that it seemed more like the 500th plane than the first.

Mr. Blue showed a film, made earlier this month, which documented the mating of major sections of the 231-foot long plane at Boeing's new final assembly plant. Even those accustomed to the huge dimensions of the aircraft were awe-struck by the plane's immensity as the major fuselage sections came together, along with the horizontal and vertical stabilizers to show for the first time a complete aircraft.

It wasn't until the Ventura-built wing-to-body fairing became visible in one of the sequences that the reality of the plane's size hit the audience.

After near-perfect assembly of the first aircraft, Mr. Blue predicted that the first aircraft would be rolled out at Everett on September 30, one day ahead of schedule. The first flight is scheduled for December 17.

"The workmanship on this first plane was beautiful," Mr. Blue said. "It was a very good job."

The immensity of the job ahead for Boeing and its associates on the 747 program was pointed out by Mr. Blue when he noted that six months from now there will be a 747 completed every three days. The one which club members saw assembled in the Boeing film required two years and hundreds of million dollars investment to complete.

Mr. Blue emphasized that Boeing (See BOEING, page 6)

## Voter Guidebook Made Available As Election Aid

A guidebook to the national political conventions and 1968 elections is available to all Northrop personnel in West Coast facilities.

The booklet, "American Voter 1968," may be obtained upon request at certain Industrial Relations and Personnel Activities offices in all three divisions as well as Corporate offices and Corporate Laboratories.

Distribution of the handbook is part of Northrop's participation with other Southern California industrial firms in a program urging all citizens to take a more active part in political activity, both local and national.

Immediately following the Republican and Democratic conventions next month, special voter registration facilities will be set up in most West Coast facilities for the convenience of Northrop people who may be presently unregistered or have changed residence.

Information also will be made available to assist individuals in making financial and volunteer work contributions to the party or candidates of their choice.

The "American Voter" booklet contains a wealth of information concerning the office of president and congressional offices, national political conventions, voting qualifications and function of the electoral college.

## PLANS MADE FOR PICNIC AT SUNSET FARMS

Clowns, hot dogs, a puppet show and swimming will be on the agenda at the annual Northrop Ventura Recreation Club summer family picnic September 7 at Sunset Farms in Sylmar.

The event will begin at 10:30 a.m. and will continue until 5 p.m., NVRC president Zack Silvers said. Sunset Farms is at 16301 Foothill Road.

Tickets will be 50 cents for employees and members of their immediate families, and \$1 for guests. Mr. Silvers said tickets are expected to be on sale by August 10. Ticket information will be posted on bulletin boards, he said.

Dress is casual. Food will be available, or picnickers may bring their own.

## LOU DUMOND READY TO STAR IN OPERA

Lou Dumond, an Engineering department administrator at Northrop Ventura, will star next month in "Immortal Melody," a light opera based on the life and works of Tchaikovsky.

Mr. Dumond will portray Aleksandr Borodin, a 19th Century Russian chemist and composer. The play, never before presented, begins tomorrow and continues every Thursday through Saturday night throughout August.

Northrop Ventura Night has been scheduled for Thursday, August 15. All performances will be in the Conejo Playhouse in Thousand Oaks.

The group performing "Immortal Melody," the Conejo Players, has several Northrop Ventura members. Mr. Dumond's wife, Dorothy, was the star of a 1966 performance of the Players.

Also representing Northrop Ventura—indirectly, at least—in "Immortal Melody" will be Sandi Linebarier, a member of the choral group for the musical.

Miss Linebarier is the daughter (See OPERA, page 6)

## DOLLARS FOR IDEAS

### Five Venturans Awarded

Five employees received checks this month for ideas which they submitted to Northrop Ventura's Suggestion Award Committee.

This brings the total of winners to 18 since May, when the committee was reorganized and was placed under the direction of W. F. Sternadel, Ventura vice president and manager of Finance.

July winners were notified by mail that their suggestions had been accepted. They were, in alphabetical order:

Tom Gray, recovery systems inspector; Lewis E. Keener, spot welder; Helen Palenko, senior assembler and bonder; Ronald C. Robinson, numerical control milling machine operator; and A. N.



A PARAWING DESCENDS—With a steerable test vehicle beneath it, a Northrop Ventura-built Parawing glides to the desert floor. This is the single-keel, small prototype of the Parawing. A twin-keel, intermediate sized Parawing has been completed, and will be tested soon at the El Centro Naval Test Facility.

## Largest Parawing Poised To Begin Flight Testing

Flight testing on the largest Parawing ever built—Northrop Ventura's intermediate-scale Parawing—may begin within the next two weeks.

Northrop Ventura is studying, building and testing Parawings to determine their feasibility in future manned spacecraft programs. The contract was issued by NASA's Langley Research Center.

Robert L. Jennings, director of the Parawing Program, said testing



Mr. Jennings

will begin on the twin-keel version of the intermediate Parawing as soon as the final test on a smaller version is conducted. Small-scale testing, which began in April, was scheduled to be completed by now, but the lack of availability of an aircraft from which to drop the Parawing

has caused delays.

The first intermediate scale Parawing, which has a maximum payload capacity of 6,000 pounds and a 110-foot wingspan, was completed two weeks ago. The twin-keel Parawing was taken to the El Centro Naval Test Facility, where trial packing began. Trial packing includes packing and unpacking the Parawing on a table, to determine how it will unfold when actually deployed in the air.

To date, 52 tests have been (See PARAWING, page 6)

## Top Secretarial Award Presented To Tammy Tracy

Tammy Tracy, a senior administrative secretary at Northrop Ventura, this month was "thrilled to death" when she learned she had been awarded Certified Professional Secretary (CPS) accreditation.

Her response was not surprising, considering that of the 1,968 secretaries throughout the United



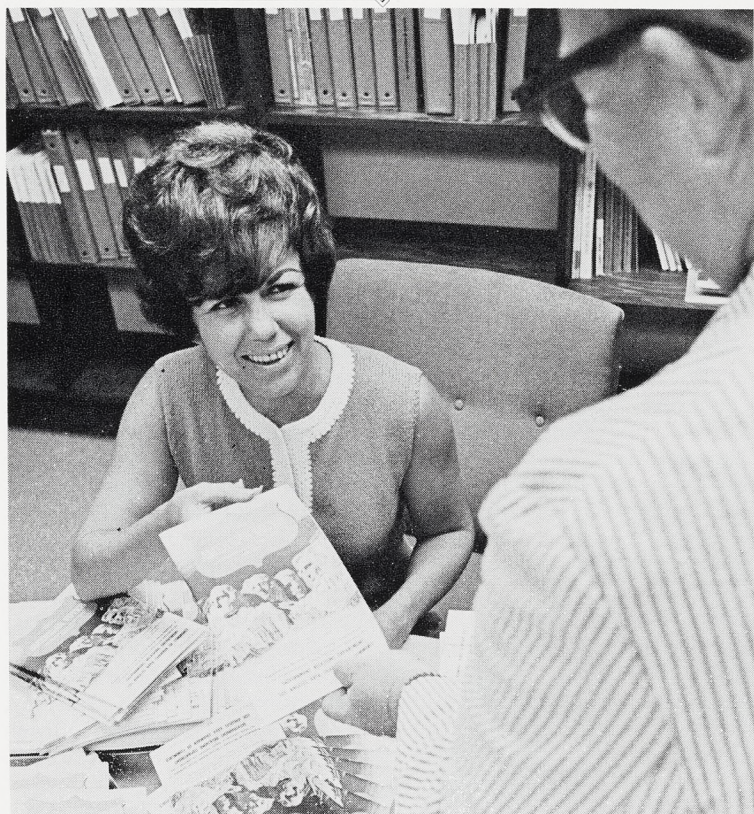
Mrs. Tracy

States and Canada who took the two-day test this year, only 349—less than 20 per cent—passed it.

The examination is given annually by the Institute of Certifying Secretaries, a department of The National Secretaries Association. Mrs. Tracy has been a Ventura employee for seven years.

There are six categories in the 16-hour test—business law, accounting, business administration and economics, human relations, secretarial skills, and secretarial procedures.

(See TRACY, page 6)



FREE TO ALL—Pati Harrison, delivers a copy of "American Voter 1968" to Marvin E. Beyrodt, jr., of the Community Relations staff. Handbook, containing a wealth of election and government information, is available to West Coast Northrop personnel free through Industrial Relations.



## NORTHROP NEWSMAKERS

**Dan Cashier**, a Northrop employee for 12 years, has been installed as president of the San Fernando Valley Chapter of the National Association of Accountants.



**Mr. Cashier**, a data processing specialist in Northrop's Internal Audit department, is in charge of Electronic Data Processing (EDP) Management Systems Audit. Before joining the Corporate office, he was with Northrop Ventura for 11 years.

He joined the San Fernando Valley NAA group in 1965 and was named its most valuable member in 1965-66. He became program director in 1966, communications director in 1967, and president this year.

The group has 400 members, more than 20 of them from throughout Northrop. Last year, the president was Ward Lanctot of Northrop Ventura.

**Carl N. Brooks**, of Norair's Electronic Systems Research group has been named chairman of the Vehicular Technology group, Los Angeles Council, Institute of Electrical and Electronic Engineers.

**Bert A. Tueling**, of Advanced Avionics Systems at Norair, has been elected chairman of the Aerospace and Electronic Systems group, Los Angeles Council, Institute of Electrical and Electronic Engineers.

**F. W. Lloyd**, vice president and general manager of Norair, has chaired the industrial management session of the Canadian Aeronautics and Space Institute and American Institute of Aeronautics and Astronautics joint meeting in Montreal.

At the session, **Dr. Donald Hicks**, vice president and general

manager of Northrop Corporate Laboratories, spoke on "The Management of a Modern Aerospace Research Program."

The CASI/AIAA meeting consisted of four sessions considering the general topic "Management in the Aerospace Fields."

**J. P. Raymond**, senior Technical staff member, Northrop Corporate Laboratories, will be a guest lecturer at a two-week UCLA short course on "Radiation Effects on Semiconductors" September 9-20.

**A. H. Friedman**, Norair Metallurgy Research, has presented a paper titled "Suggested Practice for an Accelerated Stress-Corrosion Test for High-Strength Ferrous Alloys" at a recent ASTM Meeting, San Francisco.

**D. B. Adarkar** and **G. R. Hall**, Norair Internal Aerodynamics and Propulsion Research, have co-authored an article titled "The 'Fountain Effect' and V/TOL Exhaust Ingestion" for publication in the Journal of Aircraft.

**M. S. Cahn**, **H. R. Wasson** and **J. R. Garcia**, Norair Aerodynamics and Propulsion Research and Technology, have co-authored a paper titled "Transonic Airfoil Design by Prescribed Velocity Distribution" for presentation at an AGARD Specialists' Meeting on Transonic Aerodynamics in Paris during September.

*"Politics ought to be the part-time profession of every citizen who would protect the rights and privileges of free people."*

—Dwight D. Eisenhower



**CONFERRING ON AGENDA**—F. W. Lloyd (seated), vice president and Norair general manager, talks with speakers at the second session of the CASI/AIAA joint meeting held in Montreal. Mr. Lloyd was chairman of the session, one of four held during the meeting. Dr. Donald Hicks (right), vice president and Northrop Corporate Laboratories general manager, spoke at the session on "The Management of a Modern Aerospace Research Program."

## New Million Dollar Research Center Planned by Page

A new Northrop research facility, designed to focus on world communication techniques and systems for the future, is planned for construction next year.

The \$1 million center will be built near Vienna, Virginia, by Page Communications Engineers, a Northrop subsidiary. It will be named the Northrop Page Industrial Park.

Page's present research and development organization at Westgate, Falls Church, Virginia, will move to the new complex late in 1969.

Page now employs more than 3,000 people in 20 countries. Six hundred are located at the Page headquarters in Washington, D.C.

Page associate firms include: Page Iberica in Madrid; Page Europa, S.P.A. in Rome; and Page Telecommunications, Ltd. in the Bahamas. Page also operates a 100-acre propagation test range on Taylor's Island.



**NORTHROP PAGE Industrial Park**, a million-dollar research and development facility, is being built at Vienna, Virginia. Joseph A. Waldschmitt (seated, right) acts to acquire land from Harry Warshaw, its former owner. Standing (left to right) are Clay Harrell, Vienna town manager, James Martinelli, Vienna mayor, John Jansen, a Page director, and Peyton Klopfenstein, realtor.

## HOW PARTY FUNCTIONS

### Politics Based on Free Enterprise

(Editor's Note: Following is the third in a series of articles designed to acquaint Northrop personnel with America's two-party political system; to encourage everyone to support his party and candidates, and then vote in the November elections.)

America's political system is a direct reflection of the Free Enterprise system in which any man can succeed if he has a good enough product to offer the public, manufactures it well and markets it wisely.

In fact, the operation of a political party can be compared in many ways to the operation of an American business corporation.

Northrop sells aircraft, communications equipment and other products. Ford sells automobiles.

Democrats and Republicans sell services to make a profit and stay in business.

Like an industrial corporation, each party attempts to come up with the most appealing product package each election year. Each party, under the most intense competition, tries to present its platform and candidates as completely different from the opposition product. Each tries to offer the voter, the buying public, better government service and pro-

## NASA Reaffirms Cost and Management Improvement

Northrop Corporation's active Cost and Management Improvement Program has once again passed a detailed review and evaluation conducted by the National Aeronautics and Space Administration (NASA).

Notice that Northrop cost reduction efforts have been reaffirmed was forwarded to Thomas V. Jones, president and chairman, from B. L. Dorman, NASA assistant administrator for Industrial Affairs.

Mr. Dorman noted that recertification was directly related to a program review and evaluation conducted during June at the Northrop-Huntsville facility by cost reduction personnel from NASA's Pasadena office. Northrop's total cost reduction effort is reviewed annually by NASA for recertification purposes.

Mr. Dorman wrote: "We depend on the Northrop program, as well as the programs in operation at the other 38 companies

participating in the NASA-Contractor Cost Reduction Program and the internal programs functioning at the 10 NASA field installations, to make a valuable continuing contribution toward conservation of NASA resources.

In his reply to Mr. Dorman, Mr. Jones stated, "You may be assured of my continued personal interest and the support of Northrop personnel throughout the company in achieving optimum economy in the operations of the space program."

Ken Horner, Corporate coordinator of the Cost and Management Improvement Program, reports continued interest in the program throughout Northrop is evidenced by the fact that all divisions will substantially exceed established goals this year.

## Page to Design, Install Systems In Libya, Angola

Northrop's subsidiary, Page Communications Engineers, has received two more contracts for long range communications systems to be installed in Africa. Total contract value is close to \$2.5 million.

Occidental Petroleum Corporation of Libya, has placed a \$1,790,000 order to Page for a communications system which will link the company's Tripoli headquarters with its pipeline at Zueitina. Installation of mobile units in vehicles has been completed, and additional equipment will be integrated into the system upon completion of the tropo and microwave facilities.

The second contract, for \$653,000, calls for the linking of Luanda, Angola, with Angola's capital city of Cabinda, for the Gulf Cabinda Oil Company. The system will have 12 channels initially, with expansion to 24 possible.

grams than the rival.

Also like a corporation, each party has a titular head. In case of the party in power, the president of the United States is that party's leader. The party which lost the last election may accept as its titular head the latest presidential candidate, or perhaps a new political figure who appears to have greater national popularity or position of power.

In one sense, each political party has a board of directors in people who make up the Central Committee. In a more real sense, however, the board consists of the delegates who go to the National Conventions and take the final action in nominating the party's top candidates and writing the party platform.

Each registered voter, of course, is a stockholder. In that capacity, he can exercise his authority by voting and also can wield a powerful voice by taking part in his party's activities at the local level. It is there—at the "grass roots" which we hear so much about—that political decisions are made and passed on to the higher echelons in the party.

It is safe to say that most of us feel we have no voice in selecting a national candidate. We may

register as a Democrat or a Republican, and we may in turn vote in the state primary election, but at that point we seem to be confronted by a choice of names selected by some vague power structure beyond our ability to influence.

That is not true. Almost every political organization is hungry for new people, new blood, who will work and show an interest in what is going on. Anyone is welcome in most local political groups and once a person has shown his loyalty through work and participation, he will soon find himself with a considerable voice in selection of local candidates and delegates who will represent him higher up.

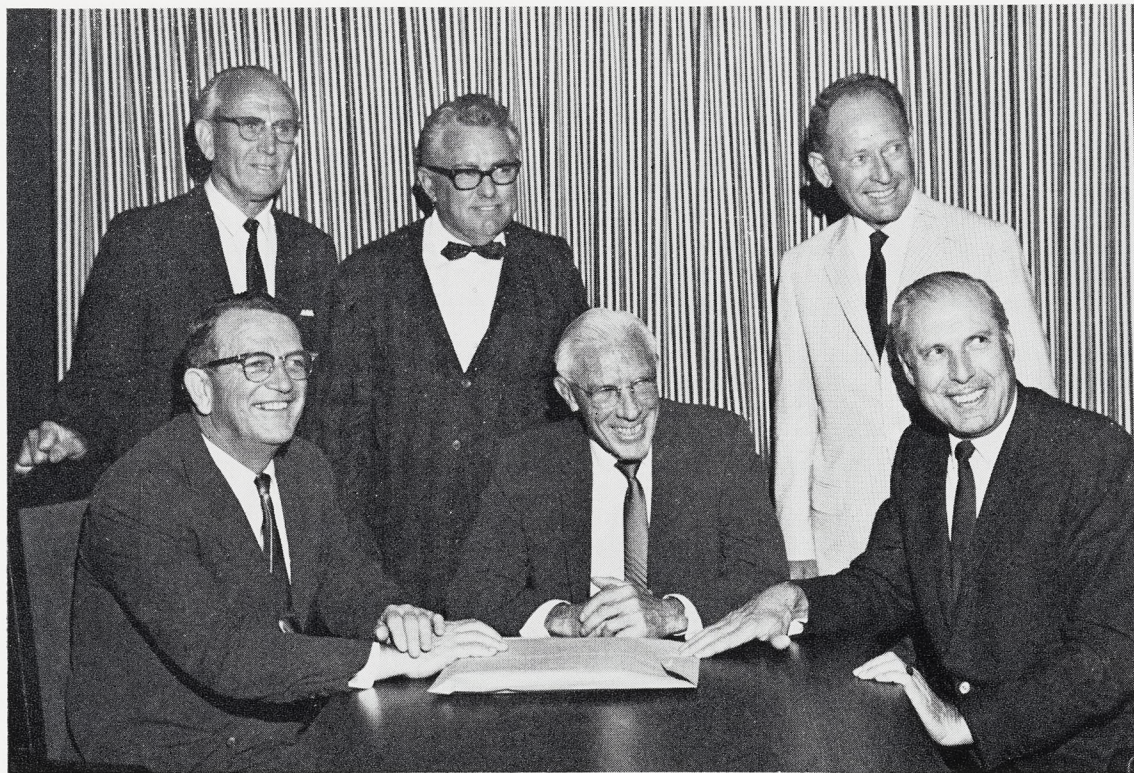
The nomination process in both parties comes to a focus in the magnificent circus known as the National Convention.

The 1968 Republican National Convention will begin Monday, August 5, in the Miami Beach Convention Hall, Miami Beach, Florida.

The Democratic National Convention will begin Monday, August 26, in the International Amphitheater, Chicago, Illinois.

(NEXT: THE CONVENTION)





RETIREMENT PARTY for Tom Chittenden (seated center) brought out scores of veteran Northrop employees, including those above who started their Northrop careers in 1939 and early 1940. Seated are Richard Nolan (left), senior vice

president—Manufacturing and Administration, and Bob Catlin, Norair manager of Quality Control. Standing (from left) are Fred Griswold, Bill Boyes and Rex Bohling.

## Tom Chittenden Retires; Held Service Seniority

Tom Chittenden, Northrop Corporation's senior employee in terms of service, ended a 28-year, 11-month Northrop career this month with retirement on his 65th birthday.

His farewell party drew more than 75 friends and well-wishers, including Richard Nolan, senior vice president — Manufacturing and Administration, who joined Northrop one week after Mr. Chittenden, Al Morgan, vice president—Industrial Relations, and a host of top Norair Division executives.

Mr. Chittenden has served Norair Division as Materiel superintendent for night operations since 1951.

He was hired August 20, 1939, just one day before Tom Quayle, Nortronics vice president.

Mr. Chittenden served as a

guard at Plant Protection for almost a year before becoming a Materiel Control project man. In 1943 he moved into supervision in Inventory Control.

An avid golfer for most of his life, Mr. Chittenden received a gift certificate for golf equipment as a farewell gift. In a lighter vein, his friends bestowed upon him mounted photographs highlighting his long career and a battered golf ball, complete with "rejection tag."

## J. C. Kitchen Will Direct New Function

Jeffrey C. Kitchen has joined Northrop Corporation as vice president for international development programs, Thomas V. Jones, Northrop president, has announced.

Mr. Kitchen will work with all segments of the company on planning and implementation of programs contributing to Free World national development.

Mr. Kitchen, formerly deputy assistant secretary of state for politico-military affairs, for the past year has been a member of the State Department's senior seminar in foreign policy. He began his career in foreign affairs as a specialist in Middle Eastern political and economic affairs during World War II.

Mr. Kitchen is a 1943 graduate of the University of Oregon, who later did graduate work in international economics and diplomacy at George Washington University.

Following a fellowship at the National Institute of Public Affairs in Washington, D. C., in 1943 and 1944, he undertook a number of assignments in the Middle East until 1947. From 1947 to 1950, he was country specialist for Iran in the State Department, and subsequently was deputy director of Greek, Turkish, and Iranian affairs for the department. He also served as deputy director of the Department's Executive Secretariat and as special assistant to Secretary of State Dean Acheson.

From late 1956 until 1961, Mr. Kitchen was a senior staff member of the Rand Corporation. He rejoined the State Department as deputy assistant secretary in 1961 to develop and head a new functional staff charged with coordinating the political and military aspects of foreign affairs on a world-wide basis.

## IT'S A FACT AT NORTHROP

Northrop Ventura is the world's leading manufacturer of unmanned radio controlled aircraft.

Over the past 30 years the division, once known as Radioplane Company, has delivered more than 60,000 drones, most of them used for training anti-aircraft gunners in U.S. military services and other allied nations.

The first drone, the RP-1, flew in 1935. Since then the division has held a commanding position in aerial training targets, which also have been adapted for surveillance, logistics and other purposes.

Northrop Ventura landmarks in drone development include:

1942—First parachute recovery system developed for the OQ-3.

1950—First out-of-sight target system, the OQ-19B.

1955—First supersonic target, the XQ-4.

1957—First flight of first rocket propelled target, the RP-76.

1959—First Mach 2 target, the Q-4B.

1967—First flight of turbojet drone aircraft, the MQM-74A.

The U.S. Navy has ordered production quantities of the MQM-74A, scheduled to perform demonstration flights this summer and fall.

International users of Northrop drone aircraft include the United Kingdom, Sweden, Belgium, Holland, Spain, Italy, Iran, Saudi Arabia, Brazil, Argentina, Chile, Australia, Taiwan, Japan and Denmark.

## HELP VA PATIENTS

### PPD, NND Active in Therapy Project

Nortronics Division facilities in Needham Heights and Norwood, Massachusetts are participating in a program which provides manual work for the rehabilitation of mental patients.

The program, the Community Hospital Industrial Rehabilitation Project (CHIRP), involves high-volume metal finishing and electrical assembly work for the Nortronics facilities by mental patients at the Brockton, Massachusetts Veterans Administration Hospital.

Community members, the Needham and Precision Products Departments, feel this program is a real expression of community service.

"We are trying to rehabilitate and assist less fortunate people," said T. H. Quayle, vice president and manager of the Nortronics Needham facility. "From the Needham and Precision Products Departments' standpoint, the program is successful in all respects."

Twenty to thirty patients work in shops at the Brockton VA Hospital in two shifts. Nortronics spokesmen report that the work is of the highest caliber and satisfies the quality control require-

ments of the Department of Defense.

"This effort is in direct support of our production line; that's the reason we need reliability. The men in the program are treated as employees, not as patients," said Mr. Quayle.

Workers at the hospital receive hourly wages.

Occupational therapy, used as a transitional program prior to returning a patient to a productive

place in society, is an old and successful psychiatric concept.

Dr. William Winick, director of the Brockton Hospital, founded the program in 1961. CHIRP depends entirely on subcontracts from private industries willing to provide meaningful projects.

NND and PPD actively seek this sort of opportunity to serve the community and, in turn, instill community pride in Northrop.



WORK THERAPY—T. H. Quayle (left), Nortronics vice president and manager of Nortronics Needham Department, and Richard Nolan (second from left), senior vice president—Manufacturing and Administration, watch patient at Brockton, Massachusetts, VA Hospital do electrical assembly work. Dr. William Winick, hospital director, is at right.

## NAS Receives New Order for 737 Flooring

Northrop Architectural Systems (NAS) has received a new contract for almost \$800,000 to produce lightweight aircraft flooring.

Issued by The Boeing Company, the contract covers flooring for approximately 200 Boeing 737 intermediate range jetliners.

NAS is currently fabricating a similar type flooring for the Boeing 747 jetliner. Less than one-half-inch thick, the flooring is made by bonding thin sheets of titanium, aluminum or fiberglass to fire-resistant polyvinyl chloride cores.

In addition, NAS has received a smaller order for flooring for use in a Super Guppy aircraft of the Aero Space Lines.

Loyal Massey heads the NAS flooring production organization which is located in Long Beach.

## Centinela Valley School Board Elevates Weaver to Presidency

A Nortronics supervisor has been elected president of the Centinela Valley Union High School District Board of Trustees.

Donald M. Weaver, general foreman in the Nortronics Manufacturing Operations group at Hawthorne, will serve a one year term during the 1968-69 school year. He has served the Centinela district for four years and was vice president of the board last year.



Mr. Weaver

Mr. Weaver, a Northrop em-

ployee for 17 years, is vice president of the Los Angeles County School Boards Association and a past president of the Lawndale Elementary Schools' Board of Trustees. He is founder of the Fine Arts Association of Centinela Valley and is a past member of the board of directors for United Way.

## SCOUT HONORED

Greg Young, 14, son of W. H. Young, Northrop Corporate Laboratories Accounting supervisor, has completed requirements for Eagle Scout honors.



SPO OFFICERS MEET—Colonels Charles H. Peterson (left) and Mark Treat meet in a conference at Norair. Colonel Peterson replaced Colonel Treat this month as Air Force F-5/T-38 Special Project Officer. Colonel Treat has been reassigned to the Air Force Aeronautical Systems Division.



## WHAT DO YOU THINK?

### Do You Approve of The Current Emphasis on Jogging for Health?



Mr. Little

**George Little, market research analyst, Nortronics Palos Verdes:**

I think it's an outstanding pick-up by the American people. Just great. Jogging is good for everybody—for everybody for a life time. It's increased my endurance, my ability for sustained work, and my stamina going up and down stairs. I can keep up with my kids now.

**Japhet Lynn, stock clerk, Norair:**

I think it's a wonderful thing. Jogging keeps a person's mind alert. He has a more relaxed mind. I was in professional baseball for 28 years. I tried to stay in good shape then. I still try now.



Mr. Lynn



**Nancy Clary, general clerk, Nortronics Palos Verdes:**

I think it's good. Good for your health. Most people who work in offices need it because they sit all day and get very little exercise.

Mrs. Clary

**Gary Thompson, senior designer, Norair:**

I think it's a lot better than doing nothing. People in America are too lax. I like everything outdoors—swimming, skiing, sailing.



Mr. Thompson



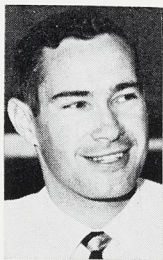
**Pearl Ray, receptionist, Norair:**

The new outfits, sweat suits and all, they wear should go over 100%. It seems that all the people who are interested in jogging are doing very well. I haven't done it myself, but the people who have done it find it to be very healthy.

Mrs. Ray

**Van Wood, senior designer, Nortronics Palos Verdes:**

I've noticed a lot of people jogging at odd hours. It's a good way to work up an appetite. Like most things of this nature, I think after awhile it will drop out of popularity.



Mr. Wood

## SANFORD BOOK

### Chronicles Baja Family

A Nortronics senior engineer, who writes prose and poetry, has published — in book form — an historical account of a pioneer family of Baja California.



Mr. Sanford

Paul Sanford, of Materials and Process Engineering at Anaheim, is author of "Where The Old West Never Died," scheduled for release next September. In his book, Mr. Sanford recounts the history of the pioneering Meling family who came to Ensenada in 1889 and built, over the ensuing years, the vast cattle empire that exists today.

Mr. Sanford has occupied his present position with Nortronics since 1956. Earlier, he was liaison engineer on the Hawk wing program and the Hawk launcher cables project. He took his B.A. degree in chemistry and physics at Milton College in Wisconsin, and did graduate work at the University of Iowa and the University of Southern California.

Mr. Sanford will retire from Northrop in approximately two years, after which he plans to spend full time in writing and research.

Meanwhile, his historical novel of the Sioux massacres of 1862 in Minnesota and the punitive expeditions of 1863-64 has also been accepted for publication next spring.

## DR. HARMON FEELS

### Hypnotism Unlocks Human Potential

Between flights at Washington's National Airport one day, Norair's Dr. E. L. Harmon happened to stop at a newsstand and pick up a book on hypnotism.

That was five years ago. Today, Dr. Harmon, a senior materials specialist in Norair's Research and Technology section, is an active lecturer and instructor on hypnosis and self-hypnosis.

"I had always been interested in people and their reaction to suggestion," Dr. Harmon said. "But this book started me really thinking about the value hypnosis can have on an everyday basis. Through hypnosis, I increased my ability to concentrate. My memory improved. I can relax better, and I've replaced old habits with new, more desirable ones."

Dr. Harmon began teaching an evening course he calls "Hypnosis in Your Everyday Life" at the Orange County Hypnosis Center in Tustin a little more than a year ago. Then, two months ago, he began a similar class at the Hawthorne Women's Club.

Watching Dr. Harmon teach the class is a fascinating experience. Often, he shows students magazine or newspaper clippings which illustrate a point. For example:

"Here's a story about a weight-lifter who weighs only 132 pounds himself," Dr. Harmon begins, "yet he can lift more than 300 pounds. Why? Here's why! 'I think very hard about what I'm

going to do. I lift the weight mentally before I lift it physically.'"

All of which illustrates one of Dr. Harmon's favorite points: "Your body has to carry out whatever concept is lodged in your subconscious mind," he says. "The body is like a computer. A computer has no freedom of choice. It does what it is programmed to do. And this is what the body must do when ordered by the subconscious."

A generation or more ago, hypnosis was seldom taken seriously except by hypnotists. It was somehow associated with magic or the occult.

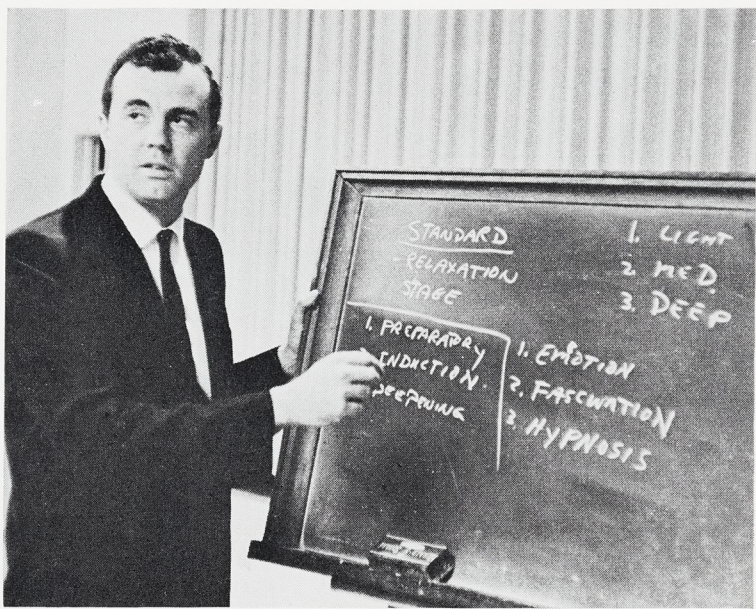
Today, this has changed. Dr. Harmon can list convincing reasons for the study of hypnotism.

"One basic purpose," he says, "is to make people more aware of the power of suggestion in

everyday life. People are what they are, and do what they do, largely because of suggestions which their minds have accepted. When you understand how this process works, then you can be selective about which suggestions you accept and which ones you don't." It is Dr. Harmon's belief that a person who practices self-hypnosis can give himself useful suggestions while in a highly suggestible, or trance-like, state.

There's no magic, nothing mysterious about hypnosis, Dr. Harmon says, and the use is more widespread than one might think.

"Hypnosis is actually a state of profound concentration. Nearly everyone has been hypnotized," he says, "whether he knows it or not. The subconscious urging of an advertisement to buy (See HYPNOTIST, page 5)



**METHODS OF HYPNOSIS**—Dr. E. L. Harmon, a senior technical specialist in Norair's Research and Technology section, conducts a class in hypnosis and self-hypnosis at the Hawthorne Women's Club. People have taken his class to lose weight, reduce tensions, combat nervousness and even improve their pool playing.

## ED SMALL ADDS NEW GRIP TO BOWLING

A Nortronics bowler has invented a new technique for drilling finger grips in bowling balls.

Ed Small, foreman of the second shift in the Grinding Room at Page Court, is a champion kegler and developed his idea through his personal contact with the game.

Mr. Small envisions a non-slip ball with contoured finger holes drilled at angles instead of the conventional straight drilling. Mr. Small suggests eight basic variations on the grip which he feels

will improve scores of the occasional and professional bowler and especially aid young bowlers, ladies and persons with weak hands.

Mr. Small believes the new grip would minimize or eliminate the dropping of the ball at time of delivery and do much to increase a bowler's comfort during his game.

The new idea of Mr. Small's has been granted a Patent Pending from the U.S. Patent Office in Washington, D.C.



*A new grip for bowling balls, devised by Ed Small of Nortronics, would not only eliminate the necessity of boring holes to a snug fit, but also relieve strain on the finger and thumb.*



**A TOAST IN SPAIN**—A recent dinner brought together the majority of Northrop personnel, and their wives, who are working in Spain with Construcciones Aeronauticas, S.A. (CASA) on

the SF-5 Program. Dinner was one of the rare occasions when most of the Northrop group have been together at one time. The initial SF-5 aircraft has been test flown.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale
Ford, 1941 pickup, V-8, \$350. 714-635-7814.
VW, 1965, many extras, \$1,300. 714-525-7979.
Mustang, 1965 fastback, 271 hi-performance, h.d. suspension, rally-pack, 4-spd., \$1,780. 213-833-4198.
Corvette Stingray, 1965, w/fuel injection, mag wheels, \$2,950. 213-374-2756.
Mercedes Benz, 190 SL, 1956, \$825. 213-373-1395.
Chevrolet, 1937, 4-dr., antique, \$75. 213-675-1064.
Chevrolet, 1954, step-in van, built for camping, new tires, \$1,200. 213-375-9811.
Chevrolet, 1957, 2½ ton, '62 GMC engine (302 cu. in.), 4 speed box, 2 speed axle & 3 speed brownie, \$985. 213-376-5553.
Buick Special, 1956, radio, p/s, p/b, \$200. 213-676-3494.
Cougar, 1967, wood grained trimmed dash, 12,000 miles, \$2,599. 213-370-9744.
Karmann Ghia, 1964, r/h, \$1,395. 714-982-0304.
Station Wagon, 1965 V.W., 8-pass., \$1,585. 213-333-2358.
Pickup Truck, 1962, ½ ton Chev., w/camper, \$1,250. 213-371-5975.
Ford Falcon, 1964, 6-cyl., std. trans., r/h, \$650. 213-644-5232.
Station Wagon, 1960 Chevrolet V8, r/h, auto. trans., \$400. 213-377-4251.
Pickup Truck, 1950, Ford & camper, V-8 rebuilt eng., \$300. 213-371-6912.
Oldsmobile, 1957 h/top, p/s, p/b, \$250. 213-675-8763.
Ford, 1965 Falcon, 2-dr., 289, 4-spd., r/h, \$1,250. 213-691-0064.
VW, 1954, white, \$995. 213-346-3751.
Volkswagen, 1956, fastback, \$1,550. 213-327-2802.
Ford, 1963, 2-dr. sedan, \$495. 714-534-6459.
Chevrolet, 1951 Greenbrier 9-pass., van type, \$395. 805-498-3857.
Mustang, 1967 fastback, p/s, r/h, a/c, V-8, auto. trans., \$2,450. 213-679-2039.
V.W., 1966, f/b, r/h, fact. air, 20,600 mi., \$1,625. 213-329-1905.
Mustang, 1965, convt., 289 cu. in., auto. trans., p/s, \$1,495. 213-378-8136.
Chevrolet, Impala SS 396, 327, 4-spd., positraction, p/s, \$2,100. 213-695-4514.
Station Wagon, 1962 Pontiac Tempest, \$350. 213-346-7830.
Pontiac, 1967 GTO, p/s, r/h, auto. trans., 13,000 miles, \$2,400. 213-534-3410.
Chevelle, 1966, 427, 4-spd., \$2,200. 213-329-5422.
Pickup Truck, 1966 El Camino, Deluxe model, 327 cu.in., floor console, auto. trans., p/s, p/b, low mileage, \$1,800. 213-675-7849.
Chevrolet, Impala, 4-dr. sedan, p/s, p/b, r/h, 283 eng., \$650. 213-327-2033.
Pickup, 1957 Chevrolet, ½ ton, Hydromatic V8, \$500. 213-343-7880.
MGA, new eng. & clutch, new fiberglass hard top and soft top, plexyglass windows, \$585. 213-451-5330.
Ford, 1962 Galaxie, XL 500, low mileage, p/b & steering, \$650. 213-325-2554.
Cutlass, 1961, F-85, p/s, all-leather interior, \$495. 213-377-8702.
Chevrolet, Malibu 1964, 4-dr, p/s, V-8 283 cu. in., new battery, \$1,150. 213-676-5219.
Pickup, 1960 Chevrolet, ½ ton, 6½' bed, r/h, \$695. 213-936-1224.
Datsun, 1967 SSS Sedan, 4-dr., w/96 h.p., 4-spd. trans., low mileage, \$1,450. 213-644-3135.
Pontiac, 1963 Tempest LeMans, 2-dr., 4 cyl., auto. trans., 37,000 mi., \$850. 213-375-8778.
Ford, 1956 2-dr., new 1963 short block six, air lifts, rear speaker, Ansen steering wheel, gauges, \$350. 213-677-7350.
Volkswagen, 1957, w/s/w, \$1,500. 213-374-2940.
Pontiac, 1962, 2-dr., h/top Catalina, 389 tri-power, cam, headers, new brakes, \$460. 213-644-6733.
Ford Fairlane, 1960, 2-dr., p/s, \$225. 213-375-3150.
Mustang, 1967, 13,000 miles, p/s, p/b, fact. air, auto. trans., \$2,650. 213-644-4235.
Mercedes Benz, 1957, 219 gas eng., 4 dr., AM/FM, 4-spd. synchro, \$750. 213-372-5304.
Ford, 1963, XL 500, p/b, p/s, a/c, low mileage, \$1,300. 213-374-5728.
Mercury, 1958, 2-dr. sta. wagon, p/s, p/b, \$250. 213-370-4315.
Station Wagon, 9 pass., 1960 Dodge V-8, p/s, p/b, w/s/w, new brakes and water pump, luggage rack, \$599. 213-371-3001.

Automobiles For Sale
Model A Ford & parts, \$335. 213-249-6222.
Cadillac, 1963 Fleetwood 60S, air, 40,000 miles, new tires, \$1,895. 213-541-1321.
Station Wagon, Oldsmobile, 1965 Vista-Cruiser 9-pass. positraction, Monroe load-levelers, heavy duty clutch & radiator, p/s, AM/FM radio, \$1,195. 213-372-9001.
Station Wagon, 1958 Ford, 4-dr., auto. trans., p/s, p/b, \$150. 213-545-5995.
Corvette, 1968 conv., 350 h.p., air, 4-spd., AM/FM, positract, p/s, dual 90 tires, 7,100 mi., \$5,295. 213-542-4091.
Camper, 1964, 8½', non-cabover, Lovebird w/3 burner stove, on 1960 Ford 6 cyl. F-100 8', \$1,195. 213-377-5450.
TR-4, 1964, wire wheels, overdrive, \$1,300. 213-883-1569.
Household Items For Sale
Dryer, Easy, elec., 220 V., copper color, \$150. 714-630-1844.
Vacuum Cleaner, Hoover 86 Constellation, canister type w/acces., \$10. 714-527-6836.
Refrigerator, Hotpoint, frost free, \$75. 213-631-4072.
Air Conditioner, General Electric, thin line compressor type, 7500 BTU capacity, with steel porta-cart stand, \$100. 714-528-7636.
Air Conditioner, Hotpoint, 9100 BTU, \$75. 213-644-5449.
Dishwasher, portable G.E., 1 yr. old, \$125. 213-645-5786.
Refrigerator, Frigidaire, 15 cu. ft., \$50. 213-645-7484.
Washer, G.E., automatic, \$20. 213-644-2607.
Stove, O'Keefe & Merritt, \$35. 213-671-2930.
Washer & Dryer, Hotpoint, 2 yrs. old, copper-tone, \$175. 714-638-4014.
Dishwasher, Kenmore, portable, top-loading, \$65. 213-323-4116.
Desk, formica top, \$35. 213-377-7317.
Headboard, for single bed, antique, white & gold ornamental, \$12.50. 213-675-3957.
Miscellaneous For Sale
Wheel Chair, standard size, \$25. 213-376-3533.
Car Top Carrier, vinyl coated fabric, weather-proof, 6' long, fits any station wagon. \$25. 213-378-5175.
Rifle, .22 caliber Remington nylon 66, semi auto., case, cleaning kit inc., \$35. 213-670-6084.
Motorcycle, 1966 Harley Davidson XLCH, many extras, \$1,050. 213-598-3072.
Dust Cover, & walnut base for 50H or 40H Miracord turntable, \$17. 213-379-6983.
Guitar, Winston Folk, instruction book, \$25. 213-372-1205.
Mobile Home, Flamingo, 45'x8', \$2,000. 213-634-0601.
Home, split level, lge. liv. rm., Los Feliz area, \$39,500. 213-663-8883.
Rug, leopard skin, w/full open mouth & felt backing, \$350. 213-379-3487.
Wiglet, frosted dark brown, 100% human hair, \$17. 714-828-7867.
Youth Bed, antique white, \$10. 213-675-7316.
Ironer, Kenmore w/chair, \$30. 213-372-7875.
Mini Bike, 3 h.p., \$110. 213-328-7571.
Transmission, Powerglide, for 1950-1954 Chevrolet, completely rebilt. w/guarantee, \$75. 213-634-0601.
Supercharger, for 1962-1966 Volkswagen, installation instructions, \$100. 213-379-4807.
Mobile Home, 1966 Biltmore, 10x58, living rm. expando, 3 bdrms, 1½ baths, in Orange co., \$500 down & take over payments. \$4,700. 714-527-1966.
House, 3 bdrm., 2 baths, family rm., cpts., dps., dble. gar., near Northrop Ventura, \$17,995. 805-498-6298.
Income Property, 4 duplex & owners single home & 10 garages on lot 66 x 300 near Northrop. Owner will carry loan at 6¾%. \$61,500. 213-677-4388.
Airplane, 1966 Cessna, 150 Com. Mark 12a, \$6,200. 213-324-8437 or 213-770-1514.
Shotgun, 16 gauge Remington Sportsman 48, modified choke, semi-auto., gun case & box of shells, \$65. 213-751-6727.
Uranium-Vanadium Properties, Sunset group (6 claims) southwest Gypsum Valley, Colorado, in Atomic Energy reserve, \$45,000 with 10% royalty. 714-642-2616.
Room Divider, with pole lamp & desk attached and three shelves, walnut finish, brass trim, \$15. 213-675-9530.
Two Waterfront Parcels, ½ acre each, NE Oregon, \$2,750 each. 213-348-4874.
Ski Boat, 14', 40 hp Merc. engine, trailer, all ski equipment, \$600. 213-673-2559.
Shell, sequin hand knitted, never worn, size 16, blue, \$20. 213-244-1793.
Rug, 12' x 15', mixed green tweed, with pad. \$60. 213-671-6592.
Razor, Sunbeam Shavemaster, \$12. 213-378-5175.
Barbell, dumbell set, 150 lb., Healthways, \$15. 213-670-6084.
Car Cooler, 1-2 speed, \$5. 213-644-3116.
Chevelle Top Boot, 1964 model, red, never used, \$15. 213-376-4677.
House, 4-bdrm., 2 baths, 2070 sq. ft., \$32,900. 213-889-0793.
Ski Boat, 14' fiberglass, 35 h.p. electric start Evinrude, tilt trailer. \$495. 213-826-7074.
Surfboard, 8'10", \$25. 213-325-2512.

Miscellaneous For Sale
Honda CB160, dual mirrors, turn signals, chrome rack, 10,700 miles, \$300. 714-774-4187.
Trailer Hitch, chrome, for 1966 Rambler 9 passenger station wagon, \$10. 714-635-3315.
Sailboat, 12' sloop rig, firefly class, \$595. 213-377-5862.
Sailboat, 9½' teacup, sandtrailer and car top accessories, dacron sail, \$200. 213-321-1655.
Parakeet, w/18"x45" round cage, parakeet manuals, cage carpets, all accessories, \$15. 213-534-2419.
Trailer, terry travel 1962, 16' sleeps 5, twin butane tanks, 3-way lights (12V-110V & butane), separate battery, \$775. 213-422-0100.
Home, Garden Grove, 4-bdrms, 2 baths, \$2,000 down, \$21,995. 213-676-4203, 714-839-1053, 213-581-5208.
Home, 3-bdrm., near schools & shopping, 1 mi. to beach, cpts., \$25,500. 213-374-2837.
House, 1,200 sq. ft., cor. lot near schools, 3 blocks from Northrop, \$26,500. 213-675-8888.
House, 2-bdrm., \$17,500. 213-671-8864.
Outboard Motor, Mark 58, 45 electric Mercury, \$225. 213-838-1926.
Dumbell/Barbell Set w/130 lbs. of weights, \$25. 213-363-6617.
Sail, Spars, & Rigging for sailboat, complete w/conversion equipment, aluminum spars, s.s. rigging, dacron sail, \$100. 213-831-9545.
Camping Table & benches attached, used twice, \$12. 213-672-8468.
Residential Lot, Palos Verdes Estates, \$21,500. 213-541-1226.
Engine, 1965 Falcon Econoline 6 and transmission, 3 speed, \$150. 213-371-3473.
Acreege, 2½ acres, near Lake Los Angeles, \$500 dn., \$20 mo., full price \$2,500. 805-947-6900.
Camper Jacks, never used, \$45. 213-371-2948.
Acreege, 5 acres in Antelope Valley, near Willow Springs, \$3,500. \$35 dn. & \$35 per month, including 6% interest. 213-378-1026.
Hand Gun, 22 cal. Magnum, 2-shot Derringer, 1 box of shells, \$17. 213-327-8927.
Sail Boat, 14', w/trailer, completely rigged, cover, sling, \$995. 213-396-8314.
Home, tri-level, 8 rm, 5-bdrm., 3 bth, fam. room, completely carpeted & custom draped, \$49,950. 213-325-8913.
5 Unit Apt. Bldg., 3 yrs. old, \$435 mo. plus owner., \$59,000. 213-676-5532.
Parts for 1957 Plymouth, \$56, or sell separately. 213-889-1442.
Golf Balls, used, no cuts or cracks, all brands. 25¢. 213-670-6365.
Pool Table, w/reg. size balls & 2 cues, \$30. 213-671-0357.
Gun, Remington 7mm, rolling block rifle, NRA, \$19. 714-539-2098.
Lots, two, side by side, 30'x80' ea., Running Springs area, \$500 dn., \$1750 ea. or \$1,500. 714-595-3013.
Living Room Set, textured naugahyde, modern style, beige, \$30. 213-539-2262.
Home, 2-bdrm. & den, lot 50'x112', 2 blks. west of Crenshaw Blvd., \$19,950. 213-675-7724.
Childs Dresser/Wardrobe, white with pink handles, \$15. 213-326-1876.
Bric-A-Brac Shelf, maple finished, \$15. 213-322-9147.
Home, 4-bdrm., 2¼ bath, w/w carpt, fam. rm. w/f/place, \$31,000. 213-672-5108 or 676-0389.
Pool Table, 7' pressed wood, incl. everything, \$75. 213-379-2554.
Salton Sea Slip Lot, lot for house and separate boat dock on channel, roads and utilities included, south side of sea in Riviera Keys, \$7,100. 714-535-1694.
Home, 4-bdrm., 2 bths, fam. rm., corner view, Palos Verdes Pen., near San Pedro, 4¾% G.I., \$35,500. 213-377-8856.
Vacuum Cleaner, Kirby, r/blt, \$48. 213-323-4330.
Color TV, Raytheon, 21", \$60. 213-430-7388.
Astro Mag. chrome wheels for Mustang, never used, \$125. 213-431-1797.
Twin Beds, maple, 4-poster, good mattress for small children, \$20. 213-329-4200.
Mini-Bike, Taco-44, 3 hp engine, \$95. 213-291-0025.
Electric Guitar, amplifier, strap, cord, \$80. 213-676-3379.
Coffee Table, early American birch, \$40. 213-671-8992.
Radial-Arm Saw, 10" Craftsman, w/adjustable steel bench and 2 blades, \$160. 213-756-6216.
Home, 4-bdrm. plus w/shop, corner lot, north Torrance location, 10 min. from Northrop, \$27,900, 10% down. 213-329-3286.
Guitar, Winstone Folk, \$25. 213-372-1205.
Organ, Conn elec., w/bench, \$1,000. 213-675-0521.
Boat, 16' wood runabout, 30 hp Merc, \$325. 213-324-3760.
Cadillac, 1954, 4-door sedan, \$175. 213-375-5513.
Swimming Pool, Sears, 12' dia., one yr. old, incl. filter, pump & accessories, \$70. 213-644-1504.
Surfboard, Con 9'4", \$55. 213-342-3295.

Miscellaneous For Sale
Home, 2-story, 2 yrs. old, 4-bdrm., lge. fam. rm, \$33,900. 714-842-2732.
Fur Stole, 2 yrs. old, used only 3 times, \$250. 213-326-2138.
Home, Gardena area, 3-bdrm., fam. rm., 2 bth, \$33,000. 213-327-0975.
Electric Trains & accessories, \$10. 213-430-2619.
Outboard Motor, Evinrude, 1967, 10 hrs. running time, crusiday tank, \$300. 213-369-2455.
Land, 3-acre parcel from Spanish Land Grant, off Ortega Hwy., 8 miles from San Juan Capistrano, \$4,000 dn., \$14,000. 714-528-4553.
Skin Diving Tank, 71.2, w/new valve, \$20. 213-328-2159.
Yamaha, 1964, 250 c.c., \$250. \$213-671-3704.
Shoes, wing tip, 1 pair (black), size 9½, \$10. 213-324-8618.
Dining Room Table, walnut, w/4 chairs, seat 8, \$25. 213-545-3495.
Victory Sloop, 21', #333, \$1,700. 213-759-6634.
Bed, dble, box spring & mattress, walnut head and foot board, \$70. 213-644-3775.
Home, 3 bdrm., 1¾ bath, only 2 miles from plant, FHA or owner will finance at 6% and no points with 20% down, \$30,000. 213-675-8829.
Lamp Table, contemporary solid walnut, 32" square, 21" high, \$20. 213-675-2331.
Propeller for 50 h.p. Johnson or Evinrude outboard motors, O.J. bronze prop 12½x14, \$15. 213-323-7544.
Patio Awning, aluminum, 9 ft. x 14 ft., new, never assembled, \$150. 213-589-9503.
Wanted to Buy
Encyclopedia set, Americana, Britannica or Colliers. 714-633-4600.
Boat Trailer for 17' SK. 213-374-3702.
Rifle, Winchester, lever action, saddle gun. 213-323-4257.
Motorcycles, h/weight, any cond., must be low in price. 213-363-3843.
Sewing Machine, hvy. duty, upholstering-type, must be reasonable. 213-393-5649.
Tandem Bicycle, Schwinn. 714-524-0889.
Book, "Aircraft Structural Analysis" by Mangurian and Johnston, will pay premium price. 213-370-0285.
File Cabinet, 2-dwr. 213-326-7528.
Motorcycle Trailer. 213-324-0366.
For Trade
Dune Buggy, VW powered, trade for bustype vehicle. 213-322-7869.
Free (To Be Given Away)
Springer Spaniel, male, 7½ yrs. old, field trial champion sire and background. 213-831-6567.
Puppies, small mixed breed, 7 weeks old. 213-674-2379.
Davenport & Chair, brown. 213-324-7059.
Dog, mostly Labrador, black, 2 yrs., healthy, gentle w/children. 213-645-8611.
T.V. Cabinet, projection-type, Tambour doors, mahogany. 213-375-5097.
Dog, mostly labrador, black, 2 yrs., healthy, house broken, good for family. 213-454-5985.
Rentals Offered
Home, 2-bdrm., unfurn., duplex, carport, 2 blks. from Norair, \$100 mo. 213-679-2121.
Apt, 1 bdrm., furn., pool, bitins, custom drapes & carpets, Lawndale, \$150/mo. 213-679-1680 or 213-670-6084.
Cabin, Lake Gregory Village area, sleeps 6, \$25 w/end, \$70 wk. 213-545-6313.
Cabin, Green Valley Lake, \$35 w/end, \$55 wk. 213-320-2002.
Home, 3-bdrm., 2 bths., fam. rm., G.E. bitins, dishwasher, \$200 mo. 213-639-2880.
Home, 2-bdrm., lge. fenced yrd., single gar., liv. rm., cpts., dps., \$40 mo. 213-679-2771.
Mt. Cabin, Green Valley Lake, \$25 w/end, \$45 wk. 213-324-0649.
Apartment for rent or lease, nearly 2,000 sq. ft., 3-bdrm., 2 bths, f/place, builtins, carpets, drapes, fenced yard, 2 blocks from Northrop, \$225 mo. 213-676-9802.
Apt, 2-bdrm, deluxe furn., lge. pool, nr. El Camino, adults, \$170. 213-329-5986.
Vacation Cabins, Idyllwild, 1 & 2 bdrms., fireplace, stream, patios, \$20 to \$35 w/ends; \$50 to \$80 wk. 213-754-5288.
Camping Equipment, 9x9 tent (\$6. wk.) 10x12 tent, \$12 wk.; stove, lantern, cats ea. \$2.50 wk., 213-839-7145.
Room, to single lady, \$15 wk., avail., 1 September; references required; College Park area, Garden Grove; 213-676-7661 or 714-893-5571.
Apt, 2-bdrm., unfurn., 2 children OK, 9 miles from Northrop, avail. after July 31, \$95. 213-537-3098.
Rentals Wanted
Garage for storage, vicinity of Hawthorne, Lawndale, South Bay. 213-679-7840.
Lost
Glasses, ladies, horn-rimmed, new. 213-545-6847.
Personals
My heartfelt gratitude & deep appreciation to all the friends at Northrop Nortronics of my late husband, "Robbie" Robinson, for their generous display of tribute, kindness & warm friendship. MAREN ROBINSON.

Rides and Riders
Rides Wanted
7 a.m. — 3:42 p.m.
Western & 225th, Torrance, Alleen M. Mel-len, Norair, exts. 2568, 2621. 213-320-7710.
Woodruff & Carson, Lake wood. A. B. Finken, Norair, 213-425-0695.
Sepulveda & National, Los Angeles. Douglas R. Burton, Norair, ext. 1992.
7:30 a.m. — 4:12 p.m.
Century & Western, Los Angeles. Jean Simp-son, 213-755-8394.
Rides Offered
7:30 a.m. — 4:12 p.m.
Junipero Ave. & 10th, Long Beach. Carol Clement, Corp. Labs. ext., 2721, 213-434-9533.
Personals
I would like to express my thanks & ap- preciation to my friends & fellow employees for their kindness shown during the recent loss of my husband. AURORE C. RICHARDS. L
Sincere thanks to my friends for their kind expressions of sympathy in the loss of my father. JANIE PERRY. L
Sincere thanks to my friends at Northrop Ventura for their thoughtfulness & generos- ity during the recent passing of my father. RUSSEL MESSICK. L
We wish to express our gratitude for the flowers, cards & kind expressions of sym- pathy in the loss of our son & grandson. NANCY GIBSON & FAMILY & DICK TEUBERT. L
We wish to express our sincere thanks for the kind thoughts & deeds extended to us at the time of the death of our mother, Mrs. Gertrude Breneman. THE BRENNEMAN FAMILY. L
I wish to express my sincere thanks for the kind thoughts & deeds extended to me at the time of the death of my mother, Mrs. Joie Marguerite Brown. CLARA ADAMS. L
My heartfelt thanks to all my friends at Northrop Ventura who were so kind to me in my recent bereavement. WILLIAM "BILL" HASSELL. L
For Sale or Trade
Movie Camera & case, Argus Super 8 model 820, 4 to 1 manual zoom lens, \$60 or trade for drill press. 213-645-6211.
Reflecting Telescope,, 10" diam., up to 1000 power magnification, trade for tape record- ing, aquarium equipment, or musical in- struments, hi-fi equip. 213-395-4801.
Cabin Cruiser, 21½' Chris Craft, Chrysler Marine, \$1,500 or trade for desert property. 213-397-2906.

HYPNOTIST  
(Continued from page 4)

a certain product; the acceptance of an idea without knowing you've accepted it; these are ex- amples. You should also learn how to dehypnotize yourself."

Dr. Harmon joined Northrop two and one-half years ago. He holds a bachelor of science de- gree in Physics, a master of sci- ence degree in physical metallur- gy, and a doctorate in physical metallurgy, all from Case Insti- tute of Technology in Cleveland. At Norair he has coordinated development of graphite compos- ites for aircraft structural uses.

Why do people enroll in the hypnosis class?

"I've had people come in for different reasons," Dr. Harmon said. "One man wanted to con- centrate so he could make more money shooting pool. Others have wanted to increase their self-con- fidence, improve concentration in their work or in their studies, or overcome such things as nervous- ness or insomnia."

Attitude is one of the most im- portant factors in hypnosis, Dr. Harmon explains.

"You have to be receptive— you can't fight it and achieve the same results," he said. "A nega- tive attitude is the result of some negative item in the subconscious. An individual who feels he is get- ting 'bad breaks' will always be a loser, because he expects to lose. He'll find a way to defeat him- self. You have to feel deserving."

Dr. Harmon's first class in Hawthorne was held in May and June. The second began on July 2, and will continue until August 6. The third will follow a week later.



## Operation Roundfile Aims At \$101,000 Savings Goal

If you come across a document that looks about as old as the Magna Charta, chances are you can throw it out.

That's the philosophy behind Operation Roundfile, which begins tomorrow at Northrop Ventura and continues throughout the month of August.

Barbara Fuller, who is coordinating the drive, urged that all desks be searched for obsolete correspondence, duplicated files, extra copies, outdated forms, unnecessary data processing reports and unneeded stationery supplies.

"Significant savings can be realized within the division by adhering closely to the principles of Operation Roundfile," Mrs. Fuller said. "But everyone's co-operation must be received if we

are to achieve the kind of success Roundfile has experienced in the past several years at Northrop Norair."

In addition to the disposal of unnecessary papers, objectives include the relinquishing of filing cabinets, furniture and other items not needed. These can be utilized by others.

A total savings goal of \$101,000 has been established for the drive. Savings will be reported on Form 10-206A, Operation Roundfile work sheet which will be available from Records Management. Savings will be reported to departmental coordinators.

And in years to come, old used Form 10-206A's may well become fit subjects for a new Operation Roundfile.

## PARAWING—Small Scale Tests Pave Way for Intermediate Version

(Continued from page 1)

conducted on the small-scale vehicle—11 more than required by Ventura's contract with the National Aeronautics and Space Administration. Of these, 37 were conducted at El Mirage Dry Lake, and 15 at El Centro.

Mr. Jennings said four each of the single-keel and twin-keel Parawings of intermediate size will be built, and 28 intermediate tests have been scheduled.

Eighteen of these will be made utilizing a Northrop-built vehicle, and 10 are scheduled with NASA's Manned Spacecraft Center's controllable vehicle. This sled-like vehicle utilizes a system of pulleys and controls to steer the Parawing.

Both types of testing will be conducted with weights varying from 3,000 to 6,000 pounds. The current schedule allocates 27 weeks for intermediate Parawing testing.

The intermediate Parawing, Mr. Jennings said, is undoubtedly the largest Parawing ever built.

"People have been working on Parawings for a few years, now," he said, "but I'm sure none has ever been built that was this big. It's called 'intermediate' only because we have an even larger one to build."

The large Parawing, which will be tested next year, will be able to support payloads up to 18,000 pounds.

## Adult Education Program Offers Night Courses

"Your high school diploma, obtained through an adult school, is free. There is not a cent for tuition."

So states Chuck Borst, administrator of Professional Development and Training, in a message directed at employees who do not have their high school diplomas.

"There are four schools within easy driving distance of Northrop Ventura which offer varied adult school programs," Mr. Borst said. "These are Oxnard, Newbury Park, Simi and Thousand Oaks."

All employees without diplomas are eligible regardless of age. Two Ventura employees received their diplomas last semester.

Fall school schedules will be available within two weeks in Mr. Borst's office on the first floor of the Administration Building, and additional information may be obtained by calling ext. 1180, or by contacting individual schools.



AN MQM-74A FOR THE NAVY—Bill Stowell (right), program director for Northrop Ventura's MQM-74A, stands by one of the first vehicles with Roy Meeks (left), Quality Assurance representative for the Defense Contracts Administration Service, and Bill Dowell of the Naval Air Systems Command in Washington, D.C.

## AT PIERCE COLLEGE

### Four Quality Assurance Men to Teach

Four Northrop Ventura Quality Assurance officials will be on the faculty of Pierce College next semester to teach evening division classes in quality control.

Registration at the Woodland Hills College will begin Monday and continue through September 12, school officials said. The semester begins September 16.

## CAMPOUT COMING UP

The Northrop Wanderers camp out will be held at Point Mugu State Recreation area on August 9, 10 and 11. Camp fees are \$1 per night. For reservations contact Ed Jaeger at Norair and Bill Shook at Nortronics.

There will be a camping club meeting on August 7 at 7 p.m. at the NRC Clubhouse, Hawthorne.

## TRACY

(Continued from page 1)

"Surprisingly," Mrs. Tracy said, "the category most often failed is secretarial skills. Evidently, everyone studies for the business administration, accounting and business law sections, and forgets to brush up on the secretarial skills."

Mrs. Tracy is secretary to Ben Collins, division program manager for Aeronautical Systems.

She is president of the Los Robles Chapter of The National Secretaries Association. Other Northrop Ventura NSA members are Jeannine Childers and Billie Linebarrier.

Mrs. Tracy attended high school at White Deer, Texas, and has studied at Los Angeles Valley College. She has been a secretary for approximately 15 years.

The National Secretaries Association, with more than 24,000 members in nearly 600 chapters, is an international organization.

## OPERA

(Continued from page 1)

of Harvey and Billie Linebarrier; both Ventura employees. She was third runner-up in this year's Miss Conejo Valley competition.

Reservations may be made by contacting Kathy Miller on ext. 435.

Ventura's Tony Fortuna, Al Martin, Bob Barnes and Bob Peterson will teach the classes. This will be the fifth year that Mr. Fortuna has participated in the program at Pierce.

Courses to be taught are Fundamentals of Quality Control, Quality Control Charts, Mater-

ials Testing, Quality Control Measurements, Quality Control Engineering, Quality Control Management, Quality Control Cost Estimating and Quality Control Procedure Writing.

Additional information may be obtained by calling Pierce College (213) 347-0551, ext. 331, between 10 a.m. and 4 p.m. Monday through Friday, and between 6 and 9 p.m. Monday through Thursday.

## BOEING

(Continued from page 1)

ing's projections of the market for 747 aircraft had not been diminished by new competition from the airbus.

"Airline passenger traffic will certainly triple by 1980 and could very well increase by five to six times over today's traffic," he said. "Freight traffic will increase at least 10 times in the same period. We feel that a realistic market estimate for the 747 is 650 to 700 aircraft."



LAST DAY—Ray Bourland, who spent nearly 26 years at Northrop Ventura, smiles at a retirement party given in his honor by fellow employees. With him is his wife, Margaret, a welder at Ventura. Mr. Bourland retired last month from the position of supervisor of Record Retention.



PROTECTIVE COATING—Ken Oestreicher (left) instructs Ventura employees in the use of alodine, a protective coating which is brushed onto Boeing 747 wing fairing surfaces to help prevent scratches. Fifteen employees have been trained in recent weeks in use of alodine.



# NORTHROP NEWS

NORTHROP VENTURA

Published biweekly by Northrop Corporation, Beverly Hills, California

Vol. 26, No. 16

August 14, 1968

## Italian Drone Delivery Date Announced

Deliveries of the SD-1 surveillance drone, to be built jointly by Northrop Ventura and Meteor, S.P.A. of Italy, are scheduled to begin at the end of this year under a nearly \$1 million pact with the Italian government.

Stiles Burke, Ventura director of International Sales, made the announcement and said the contract calls for a quantity of SD-1 flight vehicles, along with spare parts and support equipment.

Ventura is presently manufacturing SD-1 units to be shipped to Meteor for assembly of Meteor parts which will then be delivered to the Italian army. Meteor will also supply components comprising approximately 30 per cent of total contract value, consisting of such items as the altitude hold control unit, empennage, propeller, and parachute recovery system.

This is the second collaboration of Northrop and Meteor on a drone project. Two years ago, the Ventura Division and Meteor, the largest aerial target manufacturer in Italy, agreed to the joint manufacture and sale of the NVM-1.

(See SD-1, page 6)

## DODGER TICKETS STILL AVAILABLE

Approximately 50 tickets are still available for the last Ventura-sponsored Dodger night of the year. The game is Wednesday, September 18. The Dodgers meet the San Francisco Giants.

Bus transportation will be provided to the game. One bus will leave the Northrop Ventura parking lot at 6 p.m. and make one stop at Du Par's in Thousand Oaks at 6:15 p.m.

The other bus will depart from Woodland Hills Library at 6:30 p.m. and will stop at Riverside Drive West in Van Nuys at 6:45 p.m.

## IN-PLANT REGISTRATION AVAILABLE FOR VOTERS

Northrop employees who are not properly registered to vote in the November general elections will be given special opportunities to do so at a number of Southern California plant locations.

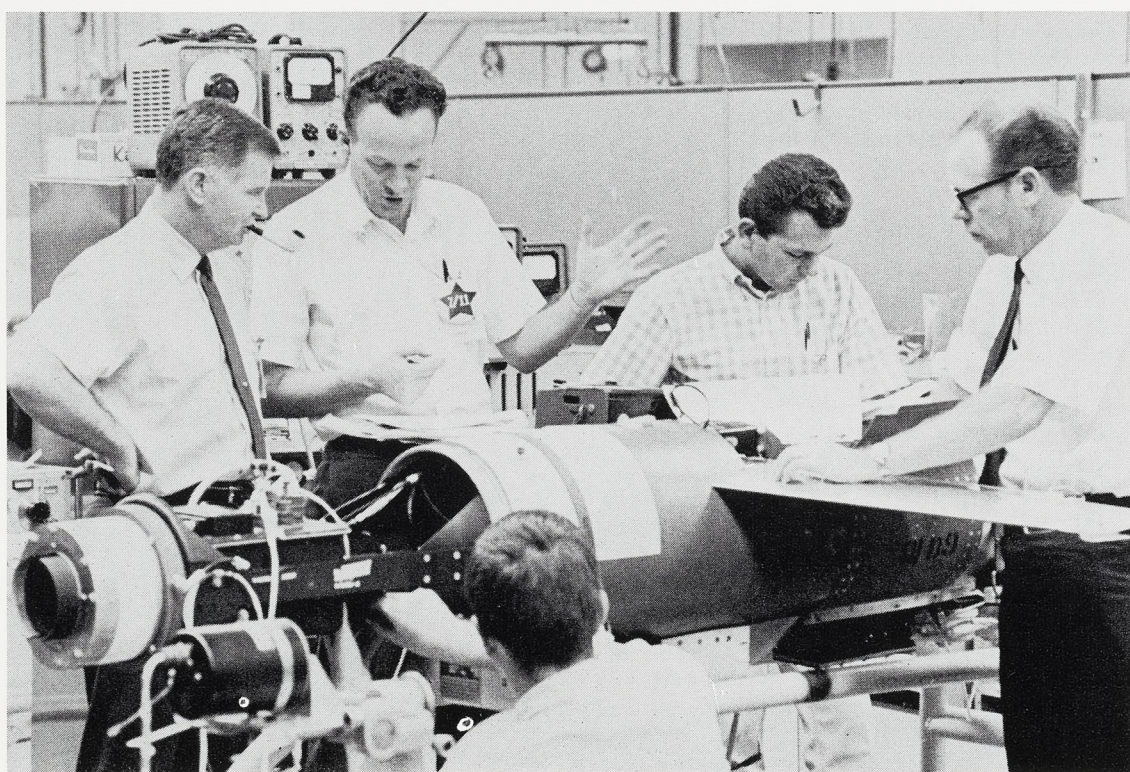
Special registrars will be stationed at the Norair, Ventura and Nortronics Divisions at specific times and dates.

The final day to register for the general election is September 12.

In order to vote, a person must be a U.S. citizen at least 21 years old, a resident of California for one year, the county for 90 days and the precinct for 54 days prior to the election.

A person must re-register if he does not have the right to vote for the following reasons:

1. Did not vote in the 1966 general election.
2. Newly moved into the



**TEAM IN ACTION**—Ted Shaw (wearing 7/11 badge) explains an inspection phase of the MQM-74A production program to DCAS Representative Dick Steininger (far left) in the midst of the 7/11 Program. Other pictured members

of the special Ventura Division-wide team which met its goal of completing 11 of the drones by July 31 are (from right) Chuck Courtemanche, J. C. McNaughten and Dennis Sperry.

## Mortars Play 'Explosive' Role in Apollo Landing

Mortars may seem unlikely pieces of equipment to take to the moon; but when the Apollo spacecraft lifts off later this year, five Northrop Ventura-built mortars will be on board.

The devices, of course, are not weapons. Rather, their purpose as a vital part of the Apollo Earth Landing system is to assure astronauts a safe return to earth.

Two mortars are mounted adjacent to the main parachute packs on the command module just below the airlock which connects the command and excursion modules of the spacecraft.

Two cartridges in each of these mechanisms will provide the explosive force to propel two drogue parachutes clear of the vehicle at

25,000 feet upon re-entry into the earth's atmosphere.

Drogue chutes stabilize and decelerate the vehicle. The capsule will descend to 10,000 feet on the drogues which will then be cut loose.

Three smaller mortars will fire a short time later to deploy three pilot chutes.

The force exerted on the pilot chutes through air resistance serves to pull out and deploy the main chutes. The capsule then descends for a water landing.

Each mortar assembly consists basically of an aluminum tube, a

(See MORTARS, page 6)

## EMPLOYEE BASKS IN 'BEST SMILE'

Irene Yabu, who works in the Ventura Employment office, apparently has the pleasure of being married to the biggest smile in Camarillo and Oxnard.

Her husband, Shigeru, executive director of the Camarillo Boys' Club, has won that title and \$250 in a contest sponsored by the Commercial and Farmer's National Bank of Camarillo and Oxnard.

Mr. Yabu was one of 50 candidates whose pictures were run in the Camarillo and Oxnard newspapers. Readers were asked to vote for the "smile which makes you smile."

Mrs. Yabu has been employed by Northrop since September.

## 7/11 Program Team Effort Successful

"I feel the formation of the team was the biggest single factor in the success of the 7/11 Program. All members accepted the challenge."

This was the explanation of John Wells, superintendent of the Target Production group, for the success of the 7/11 Program which has met its prime goal of completing 11 MQM-74A's by July 31 for delivery to the U.S. Navy.

The MQM-74A is the newest production model target drone to be manufactured by Northrop Ventura.

The team, distinguished by special badges, maintained a strong sense of pride in the program which did much to spur better coordination and eliminate constraints.

Mr. Wells, 7/11 team captain, said, "Team formation was an effective way to meet an extremely tight production schedule. The idea did not prove itself with the aid of major production innovations. Success came only with

(See 7/11, page 6)

## FAMILY PICNIC TICKETS READY

Tickets for the Northrop Ventura Recreation Club summer family picnic are on sale every Tuesday and Thursday during lunch in the mall area through September 5.

Tickets are 50 cents for employees and members of their immediate families, and \$1 for guests.

The picnic is scheduled for September 7 at Sunset Farms, 16301 Foothill Road.



**PARACHUTE PACKING**—Norma Cretal (left) inserts foam riser ring into the drogue parachute mortar while Stan Enger ties the ring to the drogue chute. The operation, done in Ventura's Paralab, is one of the last before the mortar is ready to take its place in the Apollo

Earth Landing system. The mortar uses an explosive charge to deploy the drogue chute which provides initial deceleration and stabilization of the Apollo command module upon re-entry into earth's atmosphere.



## NORTHROP NEWSMAKERS



Mr. Kayser

**John Kayser**, Norair industrial artist, has won first prize in the production illustration category of the annual TIMA industrial arts show.

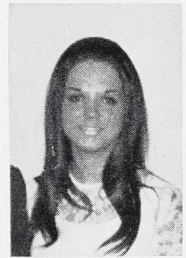
His winning piece was a detailed schematic drawing of a T-38/F-5 wing casting. Mr. Kayser won first prize in the same category last year at the TIMA show.

**Reverend John Chambers**, Norair, and **Charles Zyetz**, Nortronics Hawthorne, reached an agreement—the Chambers' pet collie, Prince, will join the Zyetz household.

Prince has other ideas. He's pulled a "great escape" four times now to return home.

This week's Northrop News Classified section contains another Chambers offer to give Prince to a loving family, preferably in Anaheim or Thousand Oaks.

The 17-year-old daughter of a Nortronics Anaheim analyst has become the first entrant in the Miss Brea Beauty Pageant.



Miss Brooks

**Carla Brooks**, daughter of **Don Brooks**, Materiel Proposal analyst, will compete for the beauty title on September 7 at Brea's Civic Center Park. The contest is sponsored by the Brea Chamber of Commerce.

Miss Brooks, who is entering her first beauty contest, will appear in bathing suit and formal gown competition. Also, each girl will be judged on a talent presentation.

**Younger A. Pitts** has been named assistant to the vice president—Northrop International and manager of the Teheran office. Mr. Pitts will serve as Corporate Marketing representative for all operating elements of Northrop in Iran, Turkey, Lebanon, Jordan, Kuwait, Saudi Arabia and Pakistan. **M. C. Haenke** has returned for a new assignment with Northrop International.

**J. R. Bruce**, formerly director of Northrop's Houston, Texas, district office, is transferring his base of operations to the eastern regional office, Washington, D.C.

Effective September 1, **William Schumann**, west central regional manager, Oklahoma City, will assume responsibilities for serving the Houston-Dallas-Fort Worth areas.

**Andrzej Wortman**, Norair, has prepared an article titled "Aerodynamics of Randomly Tumbling Bodies" for publication in the AIAA Journal.

**Richard W. Millar**, a member of the Northrop Corporation board of directors since 1946, has been named to the board of trustees at Northrop Institute of Technology.

**Sidney S. Lotz**, director of Data Processing Operations at Norair, addressed a conference discussing "Managing the Modern Data Processing Department" in Los Angeles. The conference was given by the American Management Association.

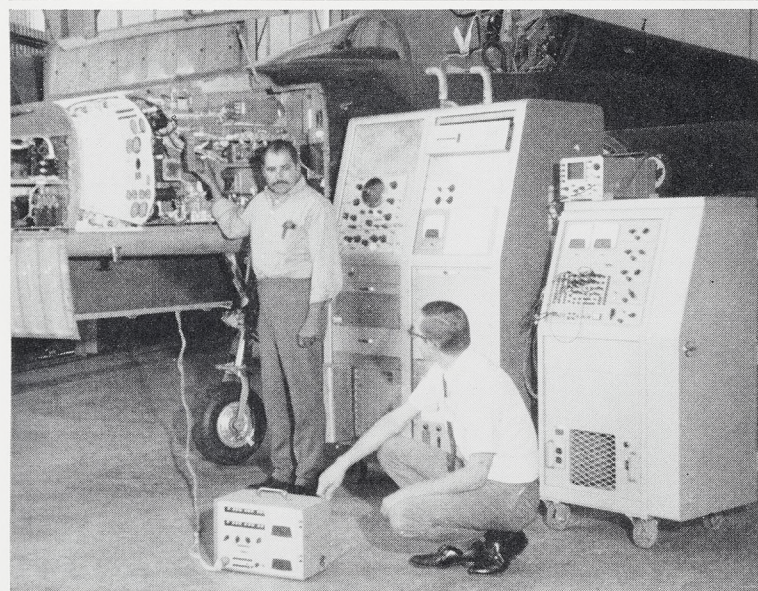
**Dr. William Ellet**, director, Market Research and Analysis, has discussed "An Effective Merger and Acquisition Strategy" at a conference on "Mergers and Acquisitions" presented recently by the University of California at Los Angeles.

**H. W. Deffebach** has been appointed regional director for Latin America, responsible for marketing activities in that area. He will report to **C. R. Gates**, vice president of Northrop International.

Mr. Deffebach will be responsible for identification of Latin American markets and for overall planning and supervision for developing those markets.

Mr. Deffebach came to Northrop three years ago following a career in the U.S. Air Force. Most of his service was either in or involved with Latin America.

**IS IT NEWS?**  
**Ext. 4273**  
**HAWTHORNE**



**ADVANCE OF TECHNOLOGY** is strikingly illustrated in this picture of three pulse code modulation checkout units used over the past 10 years by Norair flight test personnel. **Frank Villarruel** (left), flight test technician, makes connections in aircraft with a new compact version of equipment which monitors flight recorder for checkout and calibration of transducers. **Bruce Demo**, flight test engineer, makes adjustments. Small model does same job as middle unit, developed 10 years ago, and unit at right, developed seven years ago.



**BACK IN ACTION**—Northrop F-5, one of 12 sent to Vietnam in the "Skoshi Tiger" evaluation, is back in service at Williams AFB, Arizona, after refurbishing at Norair. Major Robert White, who flew the aircraft in Vietnam, shows Sergeant Alan Meston symbols of combat action collected during 725 missions.

## Peruvian Aviation Study Undertaken by Northrop

Details of a contract to study and make recommendations in the field of commercial aviation in Peru have been announced by James L. Taylor, Corporate director of Operations Research Development Assistance Programs (ORDAP).

The contract was awarded to Northrop by the Peruvian Corporation of Airports and Commercial Aviation (CORPAC). It calls for "the performance of a study of revenue-producing services and administrative practices" of the agency.

The five-month program, which began May 15, is being conducted from Lima, Peru. A team of Northrop personnel, headed by Project Director Neils E. Sorensen-Viale, associate director of ORDAP/Latin America, has relocated to that city.

"The most vital spot to concentrate is not where the laws are made but where the lawmakers are made."

—Raymond Moley, *Newsweek*

Others on the Northrop team are: Allan A. Burns and Bernard F. DaSilva of Norair, and George W. Bacon (Col., USAF, ret.).

Financing for the study was made available through a contract between CORPAC and the Export-Import Bank. The money is part of a larger loan to the Peruvian agency to be used in the financing of technical and economic studies of specific projects.

As in all such ORDAP programs, personnel from the host country are working with the Northrop team in the performance of the study. In this way on-the-job training is being provided for CORPAC members so they can carry out recommendations and future studies on their own.

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## THE CONVENTION

### Hoopla Hides Serious Party Work

(Editor's Note: Following is the fourth in a series of articles designed to acquaint Northrop personnel with America's two-party system; to encourage everyone to support his party and candidates, and then vote in the November elections.)

Most of us watch the national conventions of our political parties with indulgent, sometimes intense, affection because this is the World Series.

This is the time and place where long months of maneuver and counter-maneuver pay off in selection of the men who will fight it out for top offices in our land.

Though some may grumble about the infighting which goes on "behind the scenes" in the "smoke filled rooms," the convention is one of the highest expressions of the democratic process.

A presidential candidate eventually bubbles up out of the froth of hoopla and oratory.

Since 1832 when the Democrats nominated Andrew Jackson in Baltimore, the convention has been a boisterous showcase of politics. Hundreds of delegates mill around with brass band exuberance while the few great orators left in our society fill the

convention hall and TV networks with a wash of sonorous words extolling the virtues of party, platform and candidates.

Although most of us consider the convention a legal part of the elective process, it is not. It has no legal standing under state or federal law but is simply representative of the sentiment of the political party staging the convention.

On the other hand, some states do regulate the selection of convention delegates. These are chosen, across the nation, by three methods: (1) primary election; (2) by state convention or (3) by party state committee. In some states, voters may state a preference for the presidential nominee along with naming delegates.

Despite the carnival atmosphere (we have already seen the Republicans in action at Miami and the Democrats begin in Chicago August 26), the national convention is a very serious working session leading up to the dramatic high point of polling delegates for the presidential nomination. The five basic purposes of both conventions are these:

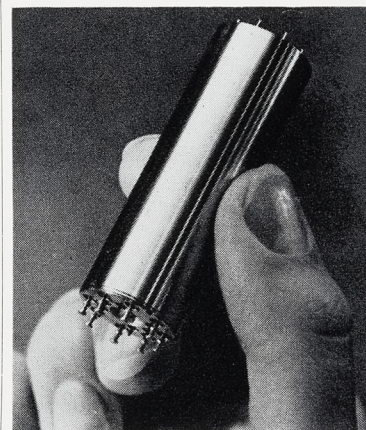
1. To adopt a national party platform;

## Page Wins New Pact In Vietnam

Page Communications Engineers has been awarded a \$6,302,313 contract by the U.S. Army Electronics Command for maintenance and operation services on the IWCS Project in Vietnam.

IWCS is the Integrated Wide-band Communications System installed in support of Allied military forces in Southeast Asia. IWCS totals approximately 470,000 circuit miles and constitutes the backbone of U.S. military communications in the Vietnam area.

The initial installation of the Vietnam portion of the IWCS was done by Page under a contract from Electronics Command based in Fort Monmouth, New Jersey.



**PPD'S DART** — New Dual-Axis Rate Transducer developed by Nortronics' Precision Products Department in Norwood is ready for marketing. Approximately the size of an "AA" flashlight battery and weighing about three and one-half ounces, DART has the potential of being even smaller. It is already smaller, lighter and less expensive than those of comparable performance. Instead of the heavy metal wheel in ordinary rate gyros, DART's sensing cell consists of long "paddle arms" rotating about an axis and suspended in liquid.

2. To nominate a candidate for president;

3. To nominate a candidate for vice president;

4. To elect a new national committee to serve until 1972; and

5. To adopt rules for allocating delegates for the 1972 convention.

Much of the basic work the average American does not see. However, 200 million of us now can take part in the national conventions by the marvelous medium of television though our vision may be limited at times to the orators, the news commentators, or television cameramen taking pictures of other television cameramen.

When the final "Mistah Chairman, the State of Blank casts blank votes for Mr. Blank for president" has sounded, the brass bands go to work. Finally, the convention hall once more is reduced to an empty, echoing pavilion littered with waste paper and old campaign slogans.

Then the work has just begun. From that moment on thousands of people and millions of dollars are swept up in the final contest leading to a decision of the people and by the people on November 5.

(NEXT: PARTY PROBLEMS)



# Birth of a Target Drone—The Navy MQM-74A



**MOMENT OF TRUTH**—George Boren (far left) of Northrop Ventura oversees preparation of turbojet-powered MQM-74A by government

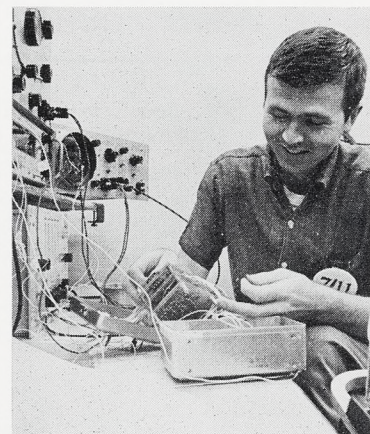
and Navy personnel for demonstration flight. Drone will undergo flights at Point Mugu, California and Dahlgren, Virginia.

Northrop Corporation is experiencing an unprecedented period of growth—in product lines, new facilities and, above all, new personnel.

Because many employees are familiar with only a small segment of Northrop's total capability, Northrop News is introducing a new feature on this page.

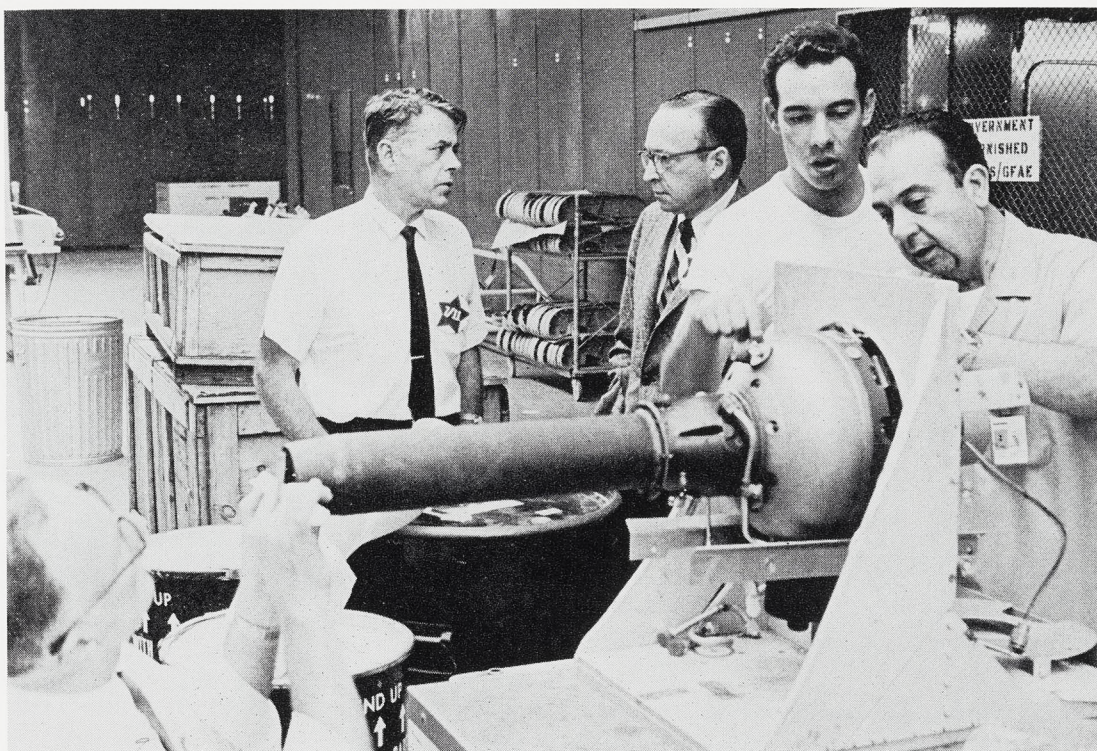
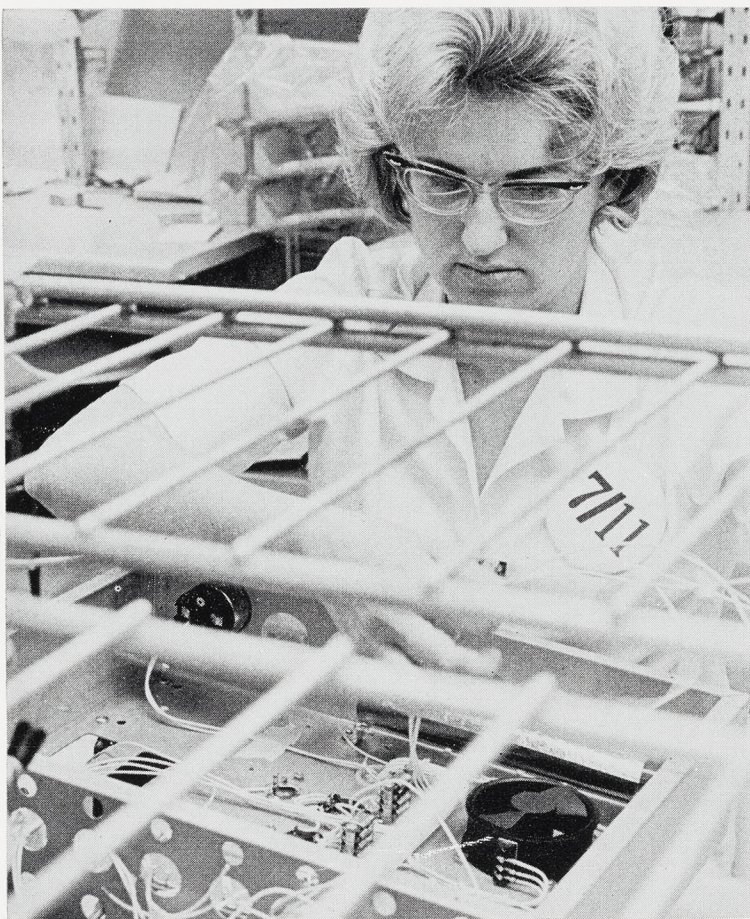
It is a pictorial visit with the master craftsmen who create, produce and service a Northrop product. Other groups and products will be presented in future issues.

Northrop Ventura is the world's leading producer of unmanned radio-controlled aircraft. Sixteen nations now utilize Ventura-built drones.



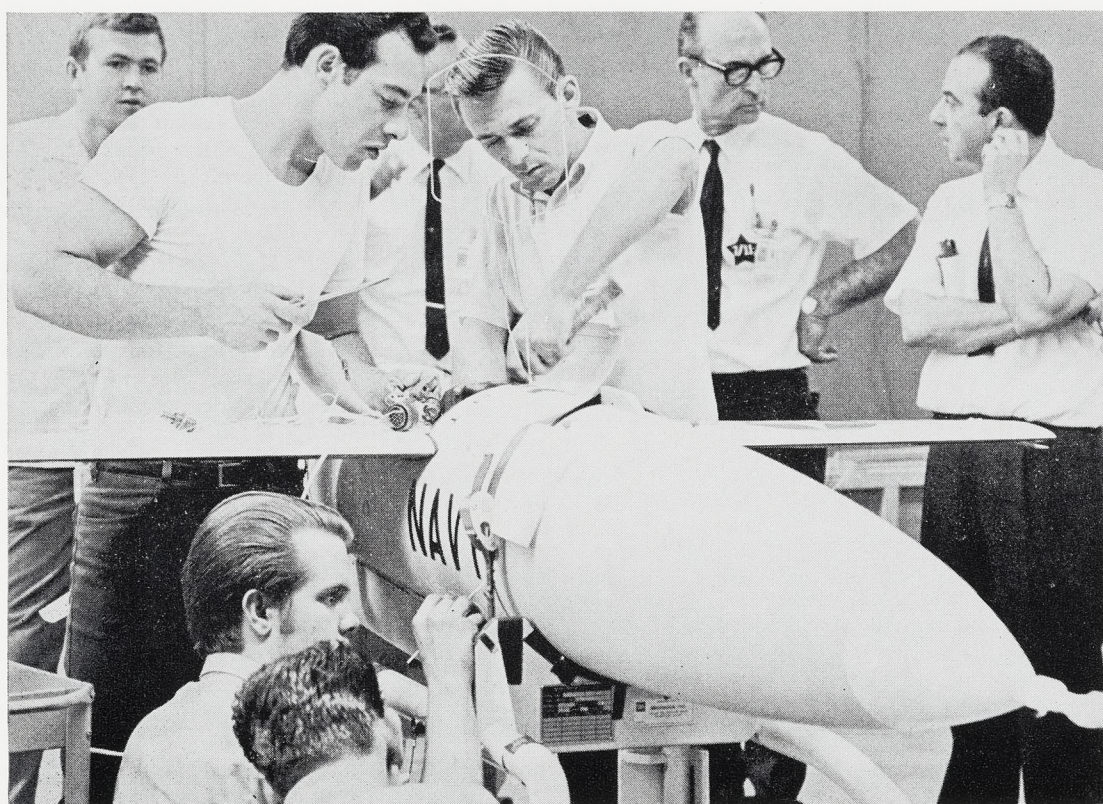
Patience, skill is needed not only in the actual assembly of the drone aircraft, but also in the meticulous test operations which involve components of the vehicle's various systems. Here, Ventura employee Dennis Sperry runs through a checkout of the MQM-74A signal conditioner.

Photos by Bob Thornton



**VITAL FABRICATION** work is done by Pat Smith (left-hand picture) as she assembles battery charger for drone. In picture above, personnel concentrate on engine buildup while

Richard Warner (left, background), product chief, confers with M. A. Maurer, Ventura vice president and manager of Production Operations.



**STRUCTURAL WORK**—Ventura Manufacturing employees put final touches on aircraft with paint touchup and nose-to-aft wiring operations in photograph above. Lee Brad-

ley (right) fits fiberglass tail reflector on target in assembly area of Ventura's Conejo Valley plant. Over the past 30 years, Northrop Ventura has delivered more than 70,000 drones.





## WHAT DO YOU THINK?

### Of Changing Certain Holidays To Have Them Fall on Mondays



Mr. Cornelius

**Bob Cornelius, foreman, Nortronics Anaheim:**

With certain holidays I approve. Holidays of special significance such as Christmas, Thanksgiving, Fourth of July, I don't approve. I don't think that holidays of religious or patriotic significance should arbitrarily be designated or changed. Artificial holidays such as Veterans Day, Columbus Day, should be changed if they appear on a Sunday.

**Sandy Korek, secretary, Northrop Corporate Laboratories:**

I think it's a good idea. It makes nice long weekends. I think people like a three-day weekend. I'd rather have Monday off than Friday. It's harder to start the week than to end it. I like to postpone it as long as I can.



Miss Korek



Mr. Brown

**Bob Brown, mechanic, Norair:**

I don't like it. Why should we celebrate the Fourth of July on the sixth if it doesn't happen to fall on a Monday? If they decide to do this, I'd rather have holidays fall on Friday than on Monday.



Mrs. Krall

**Betty Krall, receptionist, Corporate office:**

I would think that holidays which have a specific meaning to our United States should remain on the date that they represent.



Mr. Anderson

**James Anderson, senior engineer, Nortronics Hawthorne:**

Sure, so you can have a three-day holiday instead of a day off in the middle of the week. This way you don't have to work on the days before and after the holiday. It doesn't bother me that certain holidays will no longer be celebrated on their original dates.

**Cathy Young, Personnel Activities, Norair:**

As far as getting three days off I think it's great, especially if you are going out of town. But I think it sounds kind of weird to be changing holidays around. However, it doesn't bother me that certain historical holidays will no longer be celebrated on their original date.



Miss Young



**TIGHT SQUEEZE**—Northrop Ventura's William Brooks gets an assist from his father, Rowan Brooks, as he prepares to execute his famous trunk escape act during "Baffling Brooks" magic team performance.

## AERIAL COMMUTERS FIND

### No Bumper-to-Bumper Traffic Aloft

Three Hawthorne employees have done something about the frustrations of bumper-to-bumper freeway traffic and street snarls by taking to the air. When weather permits, Sheldon Bresin, Don Domeyer and Fred DeNuccio regularly pilot their privately owned airplanes into Hawthorne Municipal Airport. They are full-fledged air commuters who prefer flying to work every day.

They are often accompanied by other Northrop employees who are not just along for the ride, but also consider it a better route to work.

Mr. Bresin, a systems engineer in the Norair Advanced Design department, has been flying to Hawthorne from his home in the City of Orange for about five years in a Cessna 140. He has commercial, instrument and instructor certificates for single and

multi-engine aircraft. He has IFR (instrument flying rules) capability and therefore makes it to Hawthorne by air all but a very few times during the year than visual rated pilots, making regular air-borne commuting practical.

Mr. Domeyer, a Manufacturing Control analyst at Norair, has had his pilot's license since 1962 and is now working on his commercial multi-engine instrument rating. His plane is a four-place Stinson Voyager. Don most often carries George Walton, Norair Manufacturing Control supervisor, or fellow Norair Manufacturing Control Analyst Bob Monte as passengers.

Mr. DeNuccio, a Nortronics Manufacturing project engineer, is usually accompanied by Olie O'Laughlin, a Nortronics Manufacturing engineer. They fly into Hawthorne in Fred's two-place

Cessna 140. Fred has figured — and the others concur — that there is a slight savings in the daily cost of flying to work as opposed to driving.

For example, it costs Fred about \$2 to drive his 1963 Pontiac on the 60-mile round trip between his home in Huntington Beach and his desk in Hawthorne. Fred's Cessna will do the same job quicker for around \$1.50. But, there are tie-down fees at airports which boost the over-all cost.

Nonetheless, all concerned would rather fly than drive, even if the cost were the same or slightly higher.

"The comfort factor is certainly to be taken into consideration," said Fred, "and no price can be placed on that."

Cruising at 90 to 110 miles per hour is a lot cooler and at least two-thirds quicker than by car.



**READY TO BOARD** a pair of Cessna 140's at Hawthorne Airport are (from left) Fred DeNuccio, Olie O'Laughlin and Sheldon Bresin.

Less than 30 minutes later, the trio touched down near their homes in Orange County. All agree the airways are less congested.

## WITH ESCAPE TRICKS

### 'Baffling Brooks' Mystify Audiences

Virtually everyone has experienced difficulty packing a suitcase for a business or vacation trip. There's always an item that won't fit.

Imagine, then, how William Herbert Brooks of Northrop Ventura must feel.

As half of the "Baffling Brooks" magical team (his father, Rowan Brooks, is his partner), he must squeeze himself into a trunk which measures only 17 by 19 by 31 inches. Mr. Brooks is 5 feet 10, and weighs 145 pounds.

Still, getting into the trunk isn't the problem. Escaping from it is his specialty. He does this so well that he was presented a major award this year following a charity performance by the Society of American Magicians.

After the trunk is locked and hinged on all sides, it is wrapped in a canvas cover, and laced tightly. It is then wrapped in heavy rope on all sides, and a curtain descends upon the stage.

Within half a minute or so, the younger member of the Brooks team steps through the curtain and reveals the trunk—still sealed, wrapped and tied.

How does he do it? Naturally, he won't say.

"My grandfather, Herbert

Brooks, had the trunk made in England in 1910 for a performance before King George V," Mr. Brooks said.

"It weighs 175 pounds, and is constructed of solid steel. My grandfather had a standing offer of £20,000 to anyone who could escape from the trunk. Nobody ever made it, and my grandfather's friend, Houdini, wouldn't even attempt the trunk escape."

Herbert Brooks died in 1926 when his son, Rowan, was still a child.

"My grandfather never taught my father any magic tricks," William Brooks said, "because he didn't want him going into the business. He thought it would be better for him to establish a career in a more conventional line of work."

Still, Rowan Brooks became fascinated with escapes, illusions and the other mainstays of the magician's trade.

"When I was old enough, dad allowed me to perform with him," William Brooks said. "We've been working together now for about 15 years."

Mr. Brooks is an area dispatcher on the Boeing 747 Program at Ventura. He joined the company last November.

They often appear at the Magic Castle in Hollywood; a club founded exclusively for magicians and other show business entertainers.

Mr. Brooks roller skates and swims to maintain the dexterity and coordination needed for his work in magic.

"I'd be in trouble if I ever put on weight," he said. "At 155, I could still do the trunk escape, although I'd be slow. At 165, I couldn't even get into the trunk."

William Brooks, his wife, Sandy, and three children live in Oxnard. The oldest child, 7-year-old Kenny, is enthusiastic about his father's work in magic.

## TEACHERS TOUR

Eleven teachers and counselors from the 1968 Vocational Guidance Institute, held this year at UCLA, toured Norair and attended a session on Northrop's efforts in the employment of minority group members.

Northrop is a sponsor of the institute which is one part of a Los Angeles area effort to create better lines of communication between the business and minority communities.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale

Mercury, 1962 Monterey custom, 4-dr., 51,000 miles, fact. air, \$795. 213-629-4111, ext. 1373. A  
 Austin Healey, 1960, 3000 dlx., wire whls., o/drive, AM-FM, new top, \$850. 213-370-8958. A  
 Race Car, ¼ Midget, milled head, lge. valves, \$125. 213-676-6415. A  
 Chevrolet, 1963, Biscayne, 4-dr., auto., \$650. 213-320-3529. A  
 Ford, 1961, Starliner, 352 V-8, auto., \$440. 213-644-6733. A  
 Mustang, 1967, GT, fastback, 390 eng., 4-spd., air, disc brakes, \$2,900. 212-323-4257. A  
 Volkswagen, 1966 fastback, 1600 series, r/h, fact. air, \$1,595. 213-329-1905. A  
 Station Wagon, 1958 Chevrolet Nomad, new paint, trans. o/haul, \$350. 213-326-7528. A  
 Chevrolet, 1957 convt., std. stick, r/h, needs top, \$195. 213-377-4251. A  
 Mustang, 1967 convt., V-8, auto. trans., p/s, p/disc brakes, new tires, \$2,350. 213-377-9666. A  
 Pontiac, 1965, Grand Prix, full power, a/c, vinyl top, \$2,295. 213-373-3639. A  
 Dart, 1964 GT, 4-spd., r/h, 46,000 miles, \$950. 213-372-5367. A  
 Pontiac, 1963, LeMans, b/seats, 8 cyl. eng., r/h, auto. trans., \$650. 213-370-0733. A  
 TR-3, 1959, r/h, new tires, tonneau, \$795. 213-379-5053. A  
 Chevrolet, 1952 coupe, 2-dr., stick shift, \$125. 714-962-7808. A  
 Station Wagon, 1958 Mercury, \$150. 213-676-4746. A  
 Austin Healey Sprite, 1961, recent o/haul, new tires, brakes & clutch, \$700. 213-671-0925. A  
 Station Wagon, 1962 Oldsmobile, full power & air, \$850. 213-731-2964. A  
 Toyota, 1967 Corona, 2-dr. h/top, less than 20,000 miles, auto., \$1,985. 213-532-7717. A  
 Tempest, 1963 cpe., 4 cyl., stick, r/h, new tires & batt., \$475. 213-375-8804. A  
 Falcon, 1962 4-dr., r/h, \$350. 213-676-7763. A  
 Chevrolet, 1965 Biscayne, 2-dr., 6 cyl., auto. trans., \$1,000. 213-541-1423. A  
 Corvette, 1964 fastback, extras, \$2,300. 213-673-4280. A  
 Barracuda, 1967, 273 V-8, a/c, p/s, r/h, \$2,250. 213-473-1014. A  
 Chevrolet, 1957, 2-dr., 400 h.p. eng., stick shift, \$500. 213-675-8421. A  
 MGA, 1962, new clutch & trans., \$900. 714-838-7523. A  
 Pickup, 1957 ½ ton Chevrolet, rebilt. 283 eng., trans., gen., new clutch, \$495. Box 1601. A  
 Caprice, 1966, p/s, rear spkr., auto., 22,000 miles, \$458 dn., \$2,000; Le Mans, 1964, a/c, 3-spd., 2-dr. h/top, \$1,090. Northrop Credit Union, ext. 1117. A  
 Camper, 1963 Tropicana, 8' cabover, fully equipped, jacks & dolly incl., \$700. 213-374-6841. A  
 Oldsmobile, 1968 442, p/s, p/b, Turbohydrol suspension, posit., \$1,000 dn. & take over \$88 mo. pymts., \$2,600 approx. bal. 213-838-5810. A  
 Chevrolet, 1959, 6 cyl., p/s, 4-dr., \$195. 213-645-2665. A  
 Pickup, 1967 Datsun, ½-ton, w/camper, \$1,650. 805-482-0122. A  
 Peugeot, 1959, near new tires, brakes, \$250. 213-326-6195. A  
 Pontiac, 1968 Firebird 400, \$3,500. 213-696-9438. A  
 Buick, 1963 Skylark convt., \$825. 213-378-3600. A  
 Volkswagen, 1957, needs eng. & body work, \$200. 213-281-5948. A  
 Station Wagon, Dodge, 1961 Lancer 225, air, stick, \$250. 213-597-2260. A  
 Chevrolet, 1958, 2-dr. sed., 348 cu. in., auto. trans., r/h, p/s, p/b, \$200. 213-676-9736. A  
 Station Wagon, 1959 Rambler, auto. trans., r/h, \$150. 213-323-9932. A  
 MG, 1952 model TD midget, new top, good tires, high compression Epoloy pistons, needs paint, ring & valve, \$500. 213-630-4188. A  
 Datsun, 1967 1600 sport roadster, hard & soft tops, 18,000 miles, 4-spd. stick shift, \$1,950. 213-675-8044. A

Household Items For Sale

Vacuum Cleaner, Electrolux, w/attach., new motor & hose, \$85. 213-326-2138. B  
 Bed, Simmons Beauty Rest, \$70. 213-377-7317. B  
 China, English Spode, 8 place settings, many extras, \$75. 213-378-2564. B  
 End Tables, w/drawers, Founders oiled walnut, \$20 ea. 213-326-0340. B  
 Coffee Table, contemporary, solid walnut, 60"x22", \$40. 213-675-2331. B  
 Refrigerator, 11 cu. ft., Admiral, 2½ yrs. old, \$95. 213-534-3410. B  
 Range, RCA Estate, gas, auto. timer, b-b-que, broiler, \$40. 213-589-9503. B  
 Hide-A-Bed, Simmons, beige Naugahyde, \$50. 213-645-7484. B  
 Hide-A-Bed, early American, brown tweed, \$75. 213-671-8992. B  
 Bookcase, walnut, 6-shelf, pole type, \$15. 213-346-3751. B  
 Stove, 4-burner, gas, oven, griddle, broiler, \$25. 213-679-2771. B  
 Refrigerator, Coldspot, \$45. 213-545-3495. B  
 Rug, 9x12, brown, & pad, \$5. 213-671-6592. B  
 Washer & Dryer, Kenmore, matched set, \$150. 805-498-6298. B  
 TV, Zenith 19" portable, b&w, rolier stand, \$60. 213-645-8004. B  
 Dinette Set, 42", round table & 18" leaf, 4 chairs, \$50. 213-675-1953. B  
 Air Conditioner, G.E., window type, 11,000 btu rated, 120V., 4 yrs. old, \$100. 714-535-3723. B  
 Piano, Yamaha grand, 5'8", 3 yrs. old, \$1,795. 213-662-0429. B  
 Dishwasher, G.E. Mobilmaid, \$65. 213-679-1924. B  
 Bed, dble., 1 yr. old, \$35. 213-324-7572. B  
 Cabinet, 39x19x30" high, antiques blue, 2-shelf, \$25. 213-541-1568. B  
 Refrigerator, \$10. 213-674-5503. B  
 Washer & Dryer, matched set, Lady Kenmore, elec., \$150. 213-375-4108. B  
 Stove, apt. size, 4-burner, \$20. 213-326-5448. B  
 Washer, General Electric, \$15. 213-644-2607. B  
 Air Conditioner, Welbilt, & kit, 8,300 btu, \$86. 213-372-8502. B  
 Crib, hi-chair, wood, \$10. 213-378-1863. B  
 Mixer, Sunbeam, elec., seldom used, \$20. 213-758-9182. B  
 Refrigerator, 12 cu. ft. Hotpoint, coppertone, 2 yrs. old, \$75. 213-541-1226, 213-671-0226. B  
 Stove, gas, 40", white, \$50. 213-671-9598. B  
 Hi-Chair, all metal, folding w/locking tray, \$6. 213-835-3869. B  
 TV, color, 23" Admiral console, AM/FM stereo multiplex, \$650. Box 1602. B  
 Chair, Danish modern, \$5. 213-329-9982. B

Household Items For Sale

Vacuum Cleaner, Electrolux, w/attach., new motor & hose, \$85. 213-326-2138. B  
 Bed, Simmons Beauty Rest, \$70. 213-377-7317. B  
 China, English Spode, 8 place settings, many extras, \$75. 213-378-2564. B  
 End Tables, w/drawers, Founders oiled walnut, \$20 ea. 213-326-0340. B  
 Coffee Table, contemporary, solid walnut, 60"x22", \$40. 213-675-2331. B  
 Refrigerator, 11 cu. ft., Admiral, 2½ yrs. old, \$95. 213-534-3410. B  
 Range, RCA Estate, gas, auto. timer, b-b-que, broiler, \$40. 213-589-9503. B  
 Hide-A-Bed, Simmons, beige Naugahyde, \$50. 213-645-7484. B  
 Hide-A-Bed, early American, brown tweed, \$75. 213-671-8992. B  
 Bookcase, walnut, 6-shelf, pole type, \$15. 213-346-3751. B  
 Stove, 4-burner, gas, oven, griddle, broiler, \$25. 213-679-2771. B  
 Refrigerator, Coldspot, \$45. 213-545-3495. B  
 Rug, 9x12, brown, & pad, \$5. 213-671-6592. B  
 Washer & Dryer, Kenmore, matched set, \$150. 805-498-6298. B  
 TV, Zenith 19" portable, b&w, rolier stand, \$60. 213-645-8004. B  
 Dinette Set, 42", round table & 18" leaf, 4 chairs, \$50. 213-675-1953. B  
 Air Conditioner, G.E., window type, 11,000 btu rated, 120V., 4 yrs. old, \$100. 714-535-3723. B  
 Piano, Yamaha grand, 5'8", 3 yrs. old, \$1,795. 213-662-0429. B  
 Dishwasher, G.E. Mobilmaid, \$65. 213-679-1924. B  
 Bed, dble., 1 yr. old, \$35. 213-324-7572. B  
 Cabinet, 39x19x30" high, antiques blue, 2-shelf, \$25. 213-541-1568. B  
 Refrigerator, \$10. 213-674-5503. B  
 Washer & Dryer, matched set, Lady Kenmore, elec., \$150. 213-375-4108. B  
 Stove, apt. size, 4-burner, \$20. 213-326-5448. B  
 Washer, General Electric, \$15. 213-644-2607. B  
 Air Conditioner, Welbilt, & kit, 8,300 btu, \$86. 213-372-8502. B  
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 Refrigerator, 12 cu. ft. Hotpoint, coppertone, 2 yrs. old, \$75. 213-541-1226, 213-671-0226. B  
 Stove, gas, 40", white, \$50. 213-671-9598. B  
 Hi-Chair, all metal, folding w/locking tray, \$6. 213-835-3869. B  
 TV, color, 23" Admiral console, AM/FM stereo multiplex, \$650. Box 1602. B  
 Chair, Danish modern, \$5. 213-329-9982. B

Miscellaneous For Sale

Lawnmower, power, reel type, Briggs & Stratton, 4-cy., gasoline eng., \$18. 213-363-6617. C  
 Camper Jacks never used, \$60. 213-371-2948. C  
 Ski Boat, 16', new paint, 35 h.p. Evinrude, w/elec. starter, trailer, \$550. 213-675-6482. C  
 Tool Boxes, 2 & tools, scales, surface gauges trammel points, protractors, dividers, \$60. 213-324-7059. C  
 Boat, folding-type, w/sails 14' rubberized canvas, \$300. 213-826-7074. C  
 Weightlifting barbells, complete set, \$10. 213-377-5936. C  
 Lawnmower, 16" Craftsman, w/catcher, \$7. 714-527-6836. C  
 Barbell Set, 120 lbs., \$15. 213-451-5330. C  
 Afghan, Norwegian stripes, beige background, 51"x64", \$20. 213-670-2564. C  
 House, 4-bdrm., 2-baths, 15 min. to Northrop, \$27,000. 213-320-6975. C  
 Wedding Ring set, his & hers matched, \$100. 213-675-6186. C  
 Acreage, 7½ acres, near Victorville & Feather River Lake, \$500 dn., \$50 mo., \$5,750. 213-327-8046. C  
 Bicycle, girl's late model 26" Schwinn, w/rear baskets, \$25. 714-530-1734. C  
 Home, 3-bdrm., 2 fireplaces, rec. rm., laundry, 2 baths, cpts., dps., covered patio, concrete blk. fence, approx. 2,000 sq. ft., \$27,500. 714-772-9477. C  
 Tent, 9'x12' w/sideroom, \$25. 213-541-1123. C  
 Organ, Doric solid state, portable, band style, 5 octave keyboard, carrying case & Gibson reverb. amplifier, \$400. 714-637-3278. C  
 House, 4-bdrm., 1¾ bath, dps., cpts., bltin stove, oven & d/washer, newly painted, 5 min. from Northrop Hawthorne, \$27,950. 213-324-8464. C  
 House, 3-bdrm., 1¾ baths, close to free-ways, in Santa Fe Springs, \$19,950. 213-864-7560. C  
 Utility Trailer, 4x8, \$125. 213-326-1409. C  
 Sailboat, 11' centerboard, \$350. 213-325-7705. C  
 Home, 3-bdrm., 2 baths, elec. bltins, golf & c.c. area, high desert w/membership avail., will FHA w/large loan commitment, \$18,500. 714-244-9283. C  
 Boat, 18' Cruizon, inboard, util. hull glass on wood, lge. whl., all steel trailer, 292 cu. in. Ford eng., \$1,300. 714-962-0932. C  
 Stove, 2-burner Coleman, \$8. 213-644-3116. C  
 Camera, Rolleiflex f3.5 w/integral light meter, leather case, \$140. 213-645-8635. C  
 House, 3-bdrm., 2 baths, w/marble & ceramic tile, new cpts., enc. patio, close to Del Amo shopping center, \$27,500. 213-325-3724. C  
 Movie Projector, Bell & Howell, 8mm, auto. threading, \$50. 213-675-8390. C  
 Pups, German shorthaired pointer, AKC, field champ. line, \$75. 805-642-4888. C  
 Aircraft, 1966 Cessna 150 com. Mark 12A mkr., 500 s.m.o.h., \$5,900. 213-770-1514, 213-324-8437. C  
 Archery Equipment, complete, bow, 45 lb. target, \$35. 213-371-5123. C  
 Acreage, 2 commercial acres on Highway 41 near Yosemite, leveled for building, \$9,500. 213-675-7982. C  
 Trailer Hitch, Reese Strait Line, frame mount, w/sway control bars, elec. brake control & hyd. brake slave cyl., \$75. 213-644-2401. C  
 Home, 3-bdrm., 2 baths, walk-in closets, stone fireplace, fam. rm., breakfast bar, all elec. kitchen, 10 min. to Northrop Ventura, cpts., dps., \$28,500. 805-495-3996. C  
 Poodle, mini-toy, 4 mos. old, AKC reg., male, cocoa, \$60. 213-375-5885. C  
 Tape Recorder, portable, Olympus Pencorder, ear phones, microphone, leather case, instruction book, \$75. 213-676-3050. C  
 Mobile Home, 1961, 10x55 General, eastern made, expando living rm., \$3,500. 213-324-5878. C  
 Bicycle, Schwinn, 10-spd., Derailleur, varsity racer, \$35. 213-756-6216. C  
 Dog Pen, 10'9" x 11'9", 6 mos. old, provision for dble. gate, \$90. 213-335-3229. C  
 Sailboat, 9½' Teacup, dacron sail, cartop access., sand dolly, \$200. 213-321-1655. C  
 Motorcycle, Honda 90, \$125. 213-375-7038. C  
 Block Maker, cement, w/several forms, elec. motor, \$125. 213-375-1735. C  
 Poodle, toy, female, 4 wks. old, \$35. 714-528-9227. C  
 Sandsailer, custom blt., sloop rig, front steering, \$145. 213-377-5862. C  
 Home, 4-bdrm., 2 baths, 8 yrs. old, 5¼% G.I. financing, \$38,000. 213-676-5425. C  
 Filing Cabinet, 2-drwr., metal, w/safe, \$29.50. 213-679-6256. C  
 Ski Boat, 1967 Glasspar, 14', G3, 80 h.p. Johnson motor, b/b seats, many extras, 8 mos. old, \$1,650. 213-679-8583. C  
 Acreage, 5 acres in Antelope Valley near Rosamond, \$45 dn., \$45 mo., no interest, \$4,500. 213-378-1026. C  
 Cemetery Lots, Terrace of Faith, Rose Hills, \$200 ea. 213-867-0662. C  
 Sloop, Excalibur 26, fully equipped for racing/cruising, \$2,500 for ½ partnership or dn. pymt., \$7,500. 213-323-8331. C  
 Slide Rule, Dietzgen, case, \$18. 213-675-5258. C  
 Home, 4-bdrm., 2-car gar., w/shop, new roof & cpts., 10% dn., N. Torrance, \$27,900. 213-329-3286. C  
 Land Parcels, 2, on waterfront, ½-acre ea., power in, N.E. Oregon, \$2,750 ea. 213-348-4874. C

Miscellaneous For Sale

House, 2,000 sq. ft., 5-bdrm., 2 fireplaces, cpts., dps., f/a heat, all bltins, dble. car gar., b/wall fence, 12x22 covered patio, 4 yrs. old, ½ mile off San Diego Fwy., G.I. at 5¼%, \$35,500. 213-644-6270. C  
 Honda, 1965 305, take over \$23 mo. pymts., \$350. 805-495-8977. C  
 TV, b&w, 18" Emerson, portable, UHF 1964 model, \$45. 213-676-6661. C  
 Honda, 1967 305 Scrambler, new rear tire & batt., \$495. 213-375-9836. C  
 Go-Cart, 6 h.p. w.b. 2-cycle eng., live axle racing slicks, mag whls., 15 hrs. on eng., \$100. 213-645-3381. C  
 Tape Recorder, 4-track, stereo, Webcor, \$85. 213-329-1705. C  
 Home, Gardena area, cutsom landscaping, 3-bdrm., fam. room, 2 baths, \$33,000. 213-327-0975. C  
 Golf Clubs, pro line Chandler Harper, 9 irons, 4 woods, \$75. 213-329-3476. C  
 Flying Club Membership, Cessna 172's for \$9.50 hr. wet, Hawthorne-based, \$285. 213-329-1018. C  
 Ping Pong Table & access., \$20. 213-755-7166. C  
 Camera, Voigtlander Bessamatic, 35mm, single lens reflex, Septun f/2.50mm lens, carrying case, \$110. 213-532-7846. C  
 Tent Trailer, 1964 Westerfield, sleeps 6, \$250. 213-833-4667. C  
 Yamaha, 1964, 250 cc, \$250. 213-671-3704. C  
 Apt. Building, 4-unit, Anaheim area, 2-bdrm., 1 bath ea., cpts., dps., bltins, \$45,000. 714-776-2845. C  
 Home, 3-bdrm., 2-car gar., 10 min. walking distance of Norair, consider leasing, \$22,000. 213-324-5867. C  
 Razor, Sunbeam Shavemaster, \$12. 213-378-5175. C  
 Hodaka 90, 1966, w/extras, \$310. 805-259-2674. C  
 Home, 4-bdrm., 2 baths, fam. rm., corner, view, near San Pedro, newly decorated, 4¾% G.I., \$35,500. 213-377-8856. C

Miscellaneous For Sale

House, 2,000 sq. ft., 5-bdrm., 2 fireplaces, cpts., dps., f/a heat, all bltins, dble. car gar., b/wall fence, 12x22 covered patio, 4 yrs. old, ½ mile off San Diego Fwy., G.I. at 5¼%, \$35,500. 213-644-6270. C  
 Honda, 1965 305, take over \$23 mo. pymts., \$350. 805-495-8977. C  
 TV, b&w, 18" Emerson, portable, UHF 1964 model, \$45. 213-676-6661. C  
 Honda, 1967 305 Scrambler, new rear tire & batt., \$495. 213-375-9836. C  
 Go-Cart, 6 h.p. w.b. 2-cycle eng., live axle racing slicks, mag whls., 15 hrs. on eng., \$100. 213-645-3381. C  
 Tape Recorder, 4-track, stereo, Webcor, \$85. 213-329-1705. C  
 Home, Gardena area, cutsom landscaping, 3-bdrm., fam. room, 2 baths, \$33,000. 213-327-0975. C  
 Golf Clubs, pro line Chandler Harper, 9 irons, 4 woods, \$75. 213-329-3476. C  
 Flying Club Membership, Cessna 172's for \$9.50 hr. wet, Hawthorne-based, \$285. 213-329-1018. C  
 Ping Pong Table & access., \$20. 213-755-7166. C  
 Camera, Voigtlander Bessamatic, 35mm, single lens reflex, Septun f/2.50mm lens, carrying case, \$110. 213-532-7846. C  
 Tent Trailer, 1964 Westerfield, sleeps 6, \$250. 213-833-4667. C  
 Yamaha, 1964, 250 cc, \$250. 213-671-3704. C  
 Apt. Building, 4-unit, Anaheim area, 2-bdrm., 1 bath ea., cpts., dps., bltins, \$45,000. 714-776-2845. C  
 Home, 3-bdrm., 2-car gar., 10 min. walking distance of Norair, consider leasing, \$22,000. 213-324-5867. C  
 Razor, Sunbeam Shavemaster, \$12. 213-378-5175. C  
 Hodaka 90, 1966, w/extras, \$310. 805-259-2674. C  
 Home, 4-bdrm., 2 baths, fam. rm., corner, view, near San Pedro, newly decorated, 4¾% G.I., \$35,500. 213-377-8856. C

Wanted to Buy

Bedroom Set, provincial, w/canopy bed. 213-378-4959. D  
 Bicycle, small to medium, beginner's type, in good condition. 213-644-5852. D  
 Ford, interested in early 1928-'32. 213-329-4200. D  
 Air Conditioner, Mark IV, for auto. 213-396-3825. D  
 Camper, or shell for 1958 Ranchero. 213-329-1723. D  
 Revolver or automatic, .22 cal., short, long or long-rifle cartridge. 714-879-4568. D

Free (To Be Given Away)

Kittens, half Siamese, male & female, 8 wks. old. 213-371-8330. F  
 Dog, male collie, 4 yrs. old, well trained. 213-645-8611. F  
 Kittens, black & white male & calico female. 213-692-6336. F

Rentals Offered

House, 4-bdrm., 2 baths, stove & refrig., 2-car gar., fenced backyard, near shopping center, \$165. 714-847-8140, 213-860-5288. G  
 Cabin, Green Valley, \$25 w/end; \$45 wk. 213-324-0649. G  
 Apt, 3-bdrm., 2 baths, 3 blks. from ocean, cpts., dps., bltins, piped music, bltin vacuum, gar. w/storage cabinets, \$175. 213-372-8835. G  
 Apt, cpts., dps., bltins, all elec., closed gar., 5 min. to Nort. PV, 20 min. to Norair, 1 & 2 bdrms., unfurn., \$135; furn., \$155. 213-375-9397, 213-375-2091. G  
 House, 4-bdrm., 2½ baths, redecorated, avail. Sept. 9, 1968-July 1, 1969, fireplace, in Hermosa Bch., max. 3 men, refs. reqd., \$375. mo. 213-595-6598. G  
 House, 1-bdrm., furn., utilities, adults, \$20 wk. 213-324-1914. G

Rides and Riders

Rides Wanted

7 a.m. — 3:42 p.m.  
 Compton Blvd. & Woodruff, Bellflower. William E. Filbey, 213-925-0030.

7:30 a.m. — 4:15 p.m.

From West Los Angeles, Brentwood. T. F. Cook, Mariposa, ext. 4265, 213-826-2061.

Long Beach, Lakewood Plaza Area, Long Beach. William L. Olsasky, Norair, ext. 4874, 213-429-1757.

8 a.m. — 4:45 p.m.

From Woodland Hills & Canoga Park Area, Woodland Hills. J. Cromwell, Norair, ext. 2682, 213-348-8712.

Carson & Main, Carson. Bill Honabach, Nort. Haw., ext. 403, 213-834-0309.

Rides Offered

7:30 a.m. — 4:15 p.m.  
 Long Beach, Lakewood Plaza Area, Long Beach. William L. Olsasky, Norair, ext. 4874, 213-429-1757.

8 a.m. — 4:45 p.m.

From Woodland Hills & Canoga Park Area, Woodland Hills. J. Cromwell, Norair, ext. 2682, 213-348-8712.

Carson & Main, Carson. Bill Honabach, Nort. Haw., ext. 403, 213-834-0309.

Rentals Offered

Cabin, Green Valley Lake, \$35 w/end; \$55 wk. 213-320-2002. G  
 Cabins, Lake Gregory & Crestline, sleep 6, \$25 w/ends; \$60 wk. 213-391-2040. G  
 Bachelor Apt, ½ block from Northrop, util. pd., \$90 mo. 213-675-6481. G  
 Studio Apt, 3-bdrm., all elec., 2½ baths, gar., pvt. patio, near Del Amo Center, \$265. 213-329-3793; 213-329-3018. G  
 House, 3-bdrm., 1½ baths, bltins, lge. den, fireplace, pool, patio, 1½ miles from Nort. Hawthorne, lease w/option to buy, \$250. 213-676-2986. G  
 Apt, small 2-bdrm., o/gar., no children, no pets, gar. not inc., \$110. 213-328-2932. G

Rentals Wanted

House, 2-bdrm., service porch, lge. yd., Inglewood, Hawthorne, Gardena or Torrance area desired, on own lot, \$130-\$135 mo. max., 213-674-5803. H  
 House, 3-bdrm., fam. rm., Inglewood High Crozier area, by Sept. 1, up to \$225. 213-672-4913. H  
 House, 2 or 3-bdrm., w/gar., close to Norair Plant 3, need by Sept. 1, \$150 or less mo., 213-866-2079. H

Child Care

Child Care offered, near Rosecrans & Inglewood Ave., fenced yard, 3 yrs. & up. 213-679-6219. I  
 Child Care offered, my home, 5 min. from Northrop, pre-school age preferred. 213-676-5559, 213-676-0726. I

Personals

My family & I wish to express our thanks & appreciation for the thoughtfulness & kindness extended to us at the recent passing of my husband & our father. MRS. HOYT E. ROSS & FAMILY, DARLENE COLLIER & FRED ROSS. L  
 Thanks to our many friends for the retirement dinner & gifts. We will use them & think of you. MR. & MRS. GEORGE KNIGHT. L  
 I wish to thank all my friends & co-workers at Northrop for the wonderful retirement party & gifts. K. L. TARY. L

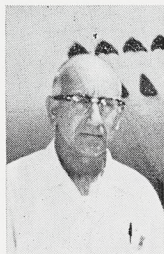
For Sale or Trade

Falcon, 1965 Ranchero, r/h, auto. trans., \$1,250 or trade for 1965 Mustang, r/h, auto. trans. 213-532-7825.



## Cease Commended for Apollo Program Work

Oscar Cease, a member of Northrop Ventura's Flight Operations staff at the El Centro Naval Test Facility, has been commended in a letter from the National Aeronautics and Space Administration.



Mr. Cease

The commendation came in a letter to George Johnson, acting manager of Quality Assurance at Ventura, from Don F. Rathburn, NASA's resident Reliability and Quality Assurance supervisor at El Centro.

"It is my distinct pleasure to express to you the Manned Spacecraft Center's specific appreciation for the continuous superior per-

formance of Oscar L. Cease in his role of Northrop Ventura Quality Assurance inspector," Mr. Rathburn wrote.

"Mr. Cease daily demonstrates a thorough knowledge of the test systems, a consummate interest in achieving perfection, tempered with the exercise of sound and reasonable judgment, and a thorough dedication to the Apollo Program.

"It is my hope that Mr. Cease will also participate in any mutual continuation program directed toward the recovery of manned spacecraft."

Mr. Cease joined Northrop Norair in 1961, and transferred to Ventura in 1963. He is one of 19 NV employees nominated to date for membership in the Apogee Club.

## Halfway Point Reached In Operation Roundfile

Operation Roundfile swept past the halfway point this week with interest among hundreds of Northrop Ventura file pruners still running "even higher than anticipated," according to Campaign Coordinator Barbara Fuller.

Operation Roundfile, which has saved millions of dollars throughout the company in the past years, is a drive to eliminate those items not essential to the conduct of business and to return office equipment no longer needed.

"As of today, we haven't received any parchments or roll-top desks," Mrs. Fuller said, "but we have received some interesting items. One man, with a tear in his eye, brought in a Project Mercury stabilization parachute, Circa 1962.

"We assured him, however, that any item of true historical value would be retained."

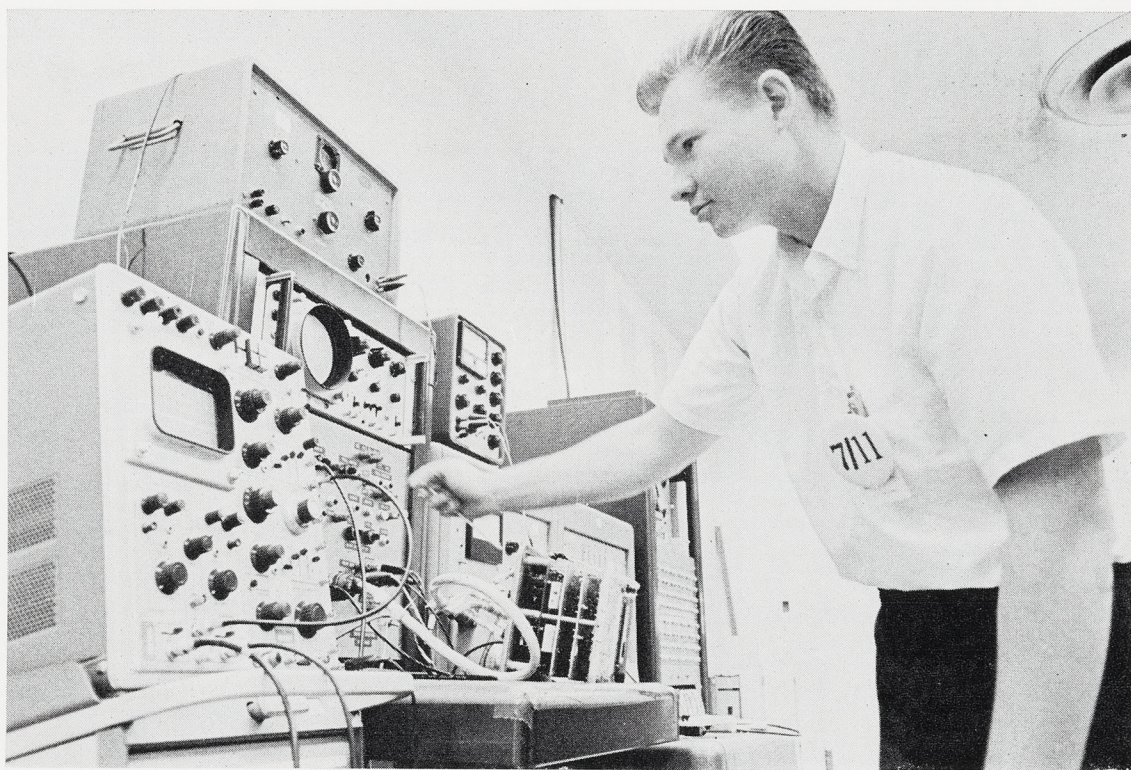
A great deal of the motivation from this drive is coming from coordinators appointed in each department by the respective managers. Department coordinators are Doug Sessions and Ken Wagoner,

Engineering; Ken Geller, Production Operations; John Via, Business Management; Bob Peterson, Quality Assurance; Dick Tupper, Finance; Bart Cook, Marketing; and Forrest Godfrey, Contracts Management.

Aside from the company-retained trash collection agency, the brunt of Operation Roundfile has fallen most heavily on the Records Center, supervised by Warren Clymer. Boxes of files sent to the Records Center are those which are no longer active but need to be retained for a specific length of time for purpose of record.

Mr. Clymer urged that careful consideration be given as to whether records really must be retained. If the records absolutely cannot be destroyed, then a specific retention schedule must be assigned, he cautioned.

Further information and assistance may be obtained from Mrs. Fuller in Records Management and respective department coordinators. The project closes August 30.



*WATCHING OSCILLOSCOPE, Jack Mildon makes test connection during checkout of decoders. Among the wide range of needed talents in a program such as the MQM-74A is a requirement for trained personnel in electrical*

*test. Success like that achieved by the 7/11 team is dependent upon efficient completion of all tasks in a program, a demand filled in professional fashion by employees throughout the division involved in MQM-74A production.*

### SD-1

(Continued from page 1)

The NVM-1, a new configuration of the Northrop KD2R-5, will continue to be produced by the two companies for five more years under terms of an agreement, subject to State Department approval, signed by Dr. Furio Lauri, Meteor president, and Welko Gasich, vice president and general manager of Northrop Ventura.

The SD-1 is a propeller driven drone which carries cameras or other equipment for aerial reconnaissance of battlefield situations.

In operation, the SD-1 may be launched to examine enemy terrain and troop disposition. The SD-1 system, which has been used by the U.S. Army, West Germany, Belgium and England, has been in operation in Italy for two years.

The replacement drones covered by the order contain a different control system along with a modification to provide for installation of two British-built Vinten cameras.

The NVM-1 aircraft is a target used to train military crews in the use of automatic weapons and surface-to-air missiles. The drone is used by the United States and allied military forces, and incorporates a takeoff assist rocket bottle developed by Meteor.

### MORTARS

(Continued from page 1)

parachute and a steel riser which anchors the chute to the vehicle.

Since space and weight are critical on any space vehicle, each parachute is packed in the mortars under pressure by a hydraulic piston. The mortar tube has a quite thin wall, but is machined from a solid block of aluminum to insure strength.

Design and development of the mortars were handled by the Mechanical Design section of Design Engineering. Actual assembly of the mortars is done in the Model Shop and parachute packing is accomplished by the Paralab.

The mortar assemblies, as a part of the Apollo Earth Landing system, are made at the Ventura Division's plant under contract to North American Rockwell.



*TEST AND ASSEMBLY work goes on side-by-side in this shot of Manufacturing area involved in the MQM-74A effort. Ruth Bolen (foreground) wires flight control test set while Art Smith records results from continuity testing of the flight control set Mrs. Bolen has completed. Quality performance of fully assembled equipment at the end of the line attests to remarkable craftsmanship of employees working under pressure schedules.*

## 7/11 PROGRAM—A Team Effort Leads to On-Schedule Deliveries

(Continued from page 1)

hard work and long hours."

Two hundred employees from every line organization in the division were involved in the program.

"Many individuals could be praised for their contributions to the success of this effort," commented Bill Stowell, MQM-74A program manager, "but obtaining our objectives was due largely to the team effort of all elements of the division."

The first two turbojet-powered MQM-74A's were delivered at the end of June. One was shipped to the Navy Weapons Laboratory at Dahlgren, Virginia, for static tests. The other was shipped to the Navy Missile Center at Point Mugu for demonstration flights.

Demonstration flights are scheduled to commence this month and additional deliveries of production targets will be made upon completion of the demonstration program.

### Bowling Leagues Seeking Members

Three winter bowling leagues will begin play September 12, according to Zack Silvers, NVRC president.

The leagues will all roll Thursday nights at 6:30 p.m. and are composed of mixed foursomes. Bowling will take place at three sites: Camarillo Bowl, Camarillo; Conejo Bowl, Thousand Oaks; and West Valley Bowl, West Valley.



*A BUSY PLACE—Warren Clymer, Records Center supervisor, moves another load of files into place for storage. Since Operation Roundfile got under way, Center has been active in storing boxes of files being removed from various offices and work areas. Interest in program is running high.*



# NORTHROP NEWS

NORTHROP VENTURA

Published biweekly by Northrop Corporation, Beverly Hills, California

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August 28, 1968

## Six Members Join Apogee Honor Roll

At the regular monthly meeting held on August 14, six names were added to the list of Apogee Club members at Northrop Ventura, bringing the total membership in the honor group to 25.

The Apogee Club was formed recently to recognize outstanding employee achievement on the Apollo Program. The new members are:

Engineering Specialist Robert J. Boulanger; Parachute Rigger Norman Cretal; Planner-Scheduler William F. Dierker; Welder Ted Hildebrand; Test Engineer Newton E. Lindsay; and Lead Project Inspector Stanley E. Nutter.

The Apogee Club Committee, which nominates and selects members, is comprised of George Grogan, vice president of Engineering; M. A. Maurer, vice president of Manufacturing; John Evans, director of Experimental Fabrication; W. A. Steyer, Apollo Program manager; Rex Fairless, director of Industrial Relations; and George Johnson, acting manager of Quality Assurance.

All nominees must receive unanimous approval of committee members to gain membership. (See APOGEE, page 6)

## Picnic Ticket Sale Continues At Lunchtime

Tickets for the annual summer family picnic will be on sale every day at lunchtime between now and September 6, the day before the picnic, Recreation Club officials have announced.

The tickets—at 50 cents for employees and their immediate family, and \$1 for guests—may be purchased in the mall area between the Administration Building and the Engineering Building.

Employees who have not received maps explaining the way to Sunset Farms, 16301 Foothill Road, Sylmar—the site of the picnic—may pick them up when they purchase their tickets.

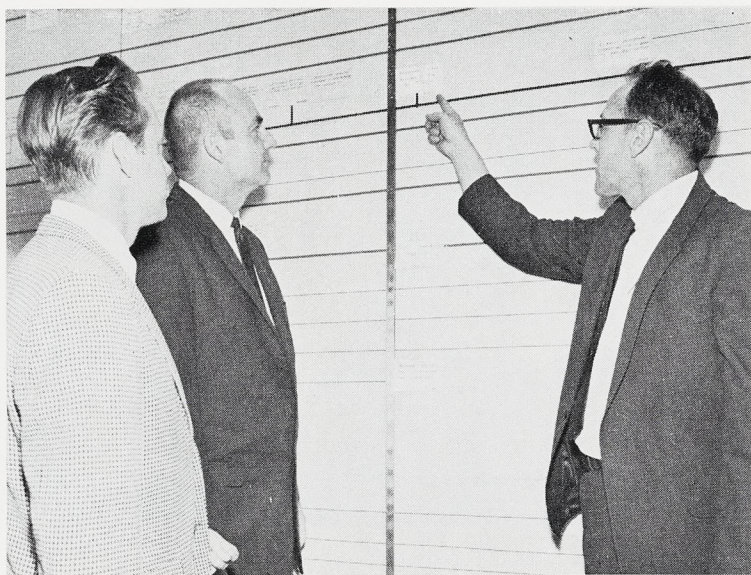
The picnic will take place from 10:30 a.m. until 5 p.m. Saturday, September 7. The food menu will include hot dogs, barbecued beef, baked beans, potato salad, cole slaw, popcorn, ice cream and soft drinks.

## Registrars Begin In-Plant Voter Signups Tomorrow

Special registrars will be available at Northrop Corporation facilities in California over the next few days to offer a special service to employees.

Employees not properly registered to vote in the upcoming November general election may do so through this convenient in-plant service.

The deadline for registering to vote in November is September 12.



THIS IS PART of the 70-foot-long progress chart on the MQM-74A Program. All program activities are logged carefully on the chart, which is constantly updated and revised. Checking progress are (from left) Jim Daniel, Darrel Welch and H. O. Knecht.

## Seventy-Foot Chart Keeps MQM-74A People Informed

A 70-foot long wall chart in the Northrop Ventura Engineering building is gaining credit these days for helping meet difficult objectives in one of the division's major programs.

The floor-to-ceiling chart is a progress report on the MQM-74A turbojet-powered target drone program. A. O. Quenon, Engineering project chief, says the chart serves two purposes:

"It provides instant visibility on all phases of the program," he said, "and identifies individuals with elements of the program. Each card on the chart lists some item or activity connected with the program, the date that item is due, the man responsible for the item, and his supervisor."

The advantages of this are obvious, Mr. Quenon believes.

"If someone has a question, he knows from looking at the chart whom to contact, and just what the timing is on any phase of the program. In fact, the cards on the wall often answer a question and save the man the trouble of asking it."

Another benefit, Mr. Quenon believes, is that an employee responsible for a particular segment of the program "will feel pride of ownership in seeing his name listed on the chart."

The wall chart is updated and maintained by Steve Sessions, the son of NV employees Doug and

Ruby Sessions. It formerly was maintained by R. A. Stoner, until he was injured in a traffic accident.

"The main thing the wall offers is communication," Mr. Quenon said. "People know what the plans are and what's going to happen, just by looking at the chart."

The turbojet-powered MQM-74A is Northrop Ventura's newest target drone. Deliveries to the Navy began in June.

## CLC Plans Course for Secretaries

"The Professional Secretary," a course of instruction for secretaries, will be part of the curriculum this year at California Lutheran College in Thousand Oaks.

Nearly half of the students enrolled—15 of 37—are Northrop Ventura employees. The course was added to the CLC curriculum at the request of the Los Robles Chapter of the National Secretaries Association. Tammy Tracy of Ventura is president of the group.

The class will meet from 7 to 10 p.m. each Wednesday, starting September 11, throughout the 1968-69 school year. Instructors will include Dan Harris, director of the Business Administration department at CLC, and David Barnes, assistant director of the department.

Included in the class outline is instruction in business law, business economics, secretarial accounting, human relations and secretarial procedures.

This is the first time such a course has been taught in the Conejo Valley area, NV's Billie Linebarrier, an officer in the NSA, said.

Mrs. Linebarrier said that, even though the class is filled, persons seeking additional information may contact her on ext. 366, as some students may drop from the class, creating openings.

## Sales Picture Still Bright For 'Old Favorite' KD2R-5

Age doesn't detract from the continuing success of Northrop Ventura's KD2R-5 target drone.

That's the latest analysis of Ben Collins, Aeronautical Systems program manager at Northrop Ventura, who has predicted continuing sales for the propeller-driven drone, which has flown since 1955.

"Current and future sales in the foreign market are expected to keep the KD2R-5 in production for some years to come," he said.

The KD2R-5 is flown by the armed forces of 15 Free World nations, as well as by the U.S. Army and Navy.

"A substantial portion of Aeronautical Systems' business in the 1969 fiscal year sales," Mr. Collins said, "will consist of sales of the KD2R-5. It is also contemplated that these purchases will continue for some years to come. We believe this to be true because of the relatively inexpensive nature of this target system, as

well as its lengthy history of reliability."

Paperwork is being prepared which will authorize the construction of approximately 150 KD2R-5 target vehicles for the foreign market, Stiles Burke, director of International Marketing, said. These vehicles will be built and delivered as contract acquisitions are required.

The KD2R-5, designated MQM-33 by the Army and MQM-36 by the Navy, now has a lengthy list of accessories which help to keep it competitive in the foreign market. One is the "zero length" launcher, a portable launching device. Another is a speed-up kit, which increases the vehicle's maximum speed and altitude capabilities.

Still another accessory is the tow dart, which is used in gunnery training involving heat-seeking. (See KD2R-5, page 6)

## Cash Awards Offered by Referral Plan

Referral awards of up to \$100 will be paid—starting immediately and continuing until October 1—to Northrop Ventura employees who successfully refer job candidates to Ventura in several positions.

The \$100 awards will be paid for the hiring of assemblers, assembly bonders, senior assembly bonders, honeycomb mill operators, senior plastic laminators or senior trim and drill operators.

Awards of \$50 will be presented for the referral of honeycomb core fabricators, plastic laminators or trim and drill operators.

R. J. Theibert, acting chief of Personnel, said applicants must be hired on a full-time basis and must remain on the payroll in the designated job for at least 90 days. Referred applicants must present a referral card at the time of first contact with the Employment organization.

Experience ranging from one year to two and one-half years is required for the listed jobs.

## Miles MacLaren Gets 25-Year Service Award

Miles MacLaren, who joined Northrop Norair on August 13, 1943, this month received recognition for 25 years of service to Northrop.

Mr. MacLaren, a field Quality Control representative, received his 25-year pin from Welko E. Gasich, vice president and Ventura general manager. Mr. MacLaren was with Norair from 1943 until June 1966, when he transferred to Ventura.

Three employees became eligible for 20-year pins in August. They are Leon Barnes, Leone Drew and Robert Smith.

Receiving his 15-year pin was Lester Shaw, while Fred Valliere was the only August candidate for a 10-year pin.

Five-year pin recipients were George Debord, John King, Joseph Palys and Nancy Smith.



SINCE 1943—Miles MacLaren (left), a field Quality Control representative for Northrop Ventura, receives a 25-year pin from Welko E. Gasich, vice president and Ventura general manager.



## NORTHROP NEWSMAKERS

**F. E. Mullins** has been named Norair resident representative at The Boeing Company for the 747 Program. **Jack Mannion**, Norair vice president — Manufacturing and Materiel, announces Mr. Mullins will have responsibility for the over-all coordination of the Norair resident team at Boeing.

**Harvey J. Jablonsky** has been named assistant to **Ward B. Dennis**, vice president, Forward Planning. Mr. Jablonsky joins Northrop after a long military career during which he attained the rank of major general in the U.S. Army.

Mr. Jablonsky is a graduate of Washington University, St. Louis, the U.S. Military Academy and the Army War College.

**Robert B. Watts, Jr.**, Northrop assistant general counsel, has participated as a panelist in a discussion of "Prime and Subcontractor Relationships and Problems" at the annual meeting of the American Bar Association in Philadelphia.

**K. M. Mitzner**, Norair, has authored an article titled "Electromagnetic Scattering from Mirror Symmetric Bodies" for publication in the SIAM Journal of Applied Mathematics.

**Dr. A. K. Goswami** of Northrop Corporate Laboratories has been named one of the first recipients of a new annual award of the Electronics Division of the American Ceramic Society. Dr. Goswami is a principal scientist in the Material Sciences Laboratory.

To be presented in St. Paul, Minnesota at the society's fall meeting, the award will be made to Dr. Goswami as co-author of a technical paper entitled "Phenomenological Theory of High Permittivity in Fine-Grained Barium Titanate." Sharing the award will be W. R. Buessem and L. E. Cross, who helped prepare the paper when the three were attending the Pennsylvania State University.

Two key executive appointments have been announced by The Hallicrafters Company, a Northrop subsidiary.

**Kenneth M. Fehr** has been named vice president - Finance. Mr. Fehr joined Hallicrafters after serving as corporate controller for the Interlake Steel Corporation. He is a graduate of Pennsylvania State University.

**Lorres Thomas** has assumed duties as manager of Market

Planning and Research of the Military Division. He has served previously as a marketing consultant to Northrop and Litton Industries. A graduate of the U.S. Military Academy, Mr. Thomas also holds a Master of Science degree from the University of Illinois.

**H. W. Jones**, Norair, has been elected treasurer of the Southern California Chapter, Special Libraries Association, an international organization of 6,500 professional librarians and information experts.

**Thomas L. McCarthy**, Norair, is serving as chairman of the Los Angeles Area Council Jamboree Committee for the 7th National Boy Scouts Jamboree to be held in 1969 at Farragut State Park, Idaho. **Dr. D. A. Hicks**, Northrop Corporate Laboratories, is serving as chairman of Jamboree Camperships.

**Bejan Khajeh-Nouri**, a senior engineer in Fluid Mechanics Research at Northrop Ventura, will teach a four-unit course at UCLA this fall.

The course, "Continuum Mechanical Approach to Viscous Fluids," will be offered from 7 to 10 p.m. on Wednesdays, beginning September 18, in Room 5264 of Boelter Hall.

A knowledge of differential equations is the prerequisite for entrance, Mr. Khajeh-Nouri said. The course is administered by the University of California Engineering and Physical Sciences Extension.

**Dr. E. L. Harmon**, a senior materials specialist at Norair, will speak on hypnosis at the Smooth-sayers Toastmistress dinner meeting Wednesday, September 11 at 6 p.m. in Dandel's, 120th and Western Avenue.

A lecturer and instructor on hypnosis and self-hypnosis, Dr. Harmon feels hypnosis unlocks human potential. Reservations can be made through Marguerite Dougherty at Nortronics, ext. 421; Shirley Wilson, Norair, ext. 4296; and Cathy Young at NRC, ext. 2486.

**Josh Nolly, James Ferguson** and **Henry Greenberger** of Nortronics, have co-authored an article on integrated command display systems featured in the August 5 edition of *Electronics Magazine*.

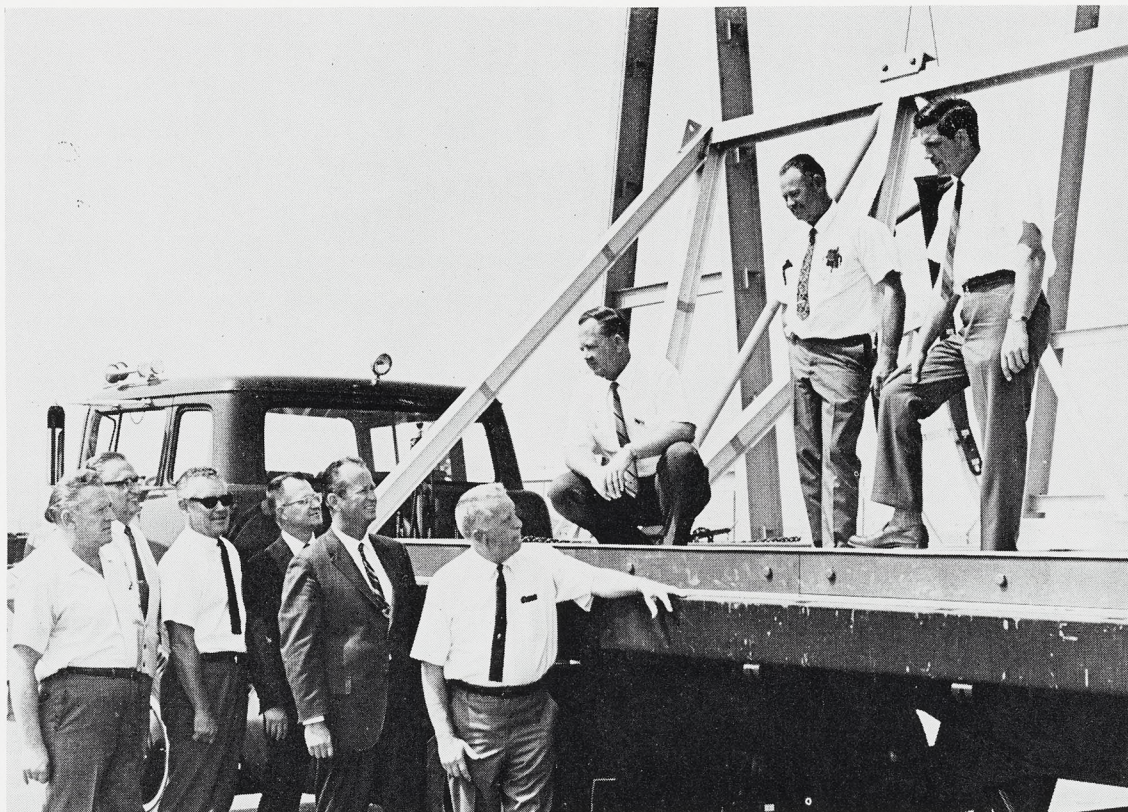
The nine-page article was illustrated by photographs showing several elements of Nortronics' Integrated Command Display System.

### PAGE CENTER JOB NEARING FINISH

Communications electronics equipment for the new United States European Command Center at Patch Barracks, Stuttgart, Germany, is nearing completion by Page Communications Engineers.

Systems installed by Page at the center are teletype and data, record and playback, secure voice, graphics and briefing, sound amplification and distribution, and display.

Page's contract is from the U.S. Army Electronics Command and is under the technical supervision of the U.S. Strategic Communications Command (STRATCOM).



TOP MANAGEMENT from Norair and Northrop Architectural Systems gathered at the NAS facility in the City of Industry for the initial delivery of 747 shipping fixtures. From left, Jim Hunter, Leo Farnham, NAS President

Douglas McFarland, Norm Turner, Vice President and Norair General Manager F. W. Lloyd, Joe Druliner, Ken Veldheer, Clyde Reno and Bill Russell. Northrop Architectural Systems began work on this effort in February.

### INITIAL ORDER

## NAS Delivers 747 Shipping Fixtures

Northrop Architectural Systems (NAS), a wholly owned subsidiary of Northrop Corporation, has delivered to Northrop Norair initial Boeing 747 shipping fixtures it is building in support of Northrop's 747 Program efforts.

F. W. Lloyd, vice president and Norair general manager, visited NAS's City of Industry facility to accept the first units.

The NAS supporting effort, which began in February, calls for the production of two different types of fixtures, Shipping Mechanical Equipment (SME) and 55 Mechanical Equipment (55 ME). The work is being performed by the Special Projects Division at NAS.

The SME units are jigs which act as cradles for completed fuselage panel assemblies shipped in oversized boxcars to Everett, Washington.

The 55 ME "strong backs" are supports bolted to the assemblies during final assembly at Norair and are then attached to the SME for shipment to Everett.

At Everett, the 55 ME and assemblies are removed from the SME and used by Boeing for a mating tool in the final assembly of the 747.

Therefore, the 55 ME units must be compatible with both Norair and Boeing equipment. This necessitates mastering for complete interchangeability.

Over the past two years, the NAS Special Projects Division has produced a large number and variety of custom designed items for the 747 project.

These include new processing tanks for Plant One, major assembly jigs scaffolding system for Plant Three and hundreds of material handling fixtures and trucks.

It was also the main contractor for the automated stringer processing line, better known as the "car wash," at Nortronics Anaheim.

Aside from special projects, NAS is internationally known for its "Arcadia" line of sliding glass doors, windows, storefronts and curtainwall installations.

### PARTY PROBLEMS

## Money, Volunteers Key to Campaign

(Editor's Note: Following is the fifth in a series of articles designed to acquaint Northrop personnel with America's two-party system; to encourage everyone to support his party and candidates, and then vote in the November elections.)

Once the conventions are over, the main work begins.

The fact is, work has been going on almost continuously since the last presidential election, and after next November 5, party leaders will start over again — planning how to win or how to avoid losing the next election.

To list the problems faced by leaders within a political organization would require a thick volume, but the most serious ones are these:

1. Accumulating money to finance the campaign.
2. Finding people willing to donate their time to the day-by-day labor of conducting the campaign.

The question of political funds is complex and sensitive.

First, the sheer numbers of people and their mobility in present-day America have greatly increased the cost of reaching the individual voter. Second, laws limit the amounts which may be spent by individual candidates and organizations. Third, the vague notion persists that anyone who

contributes to a political campaign is seeking special privilege or gain.

With the growth in our voting age population, it now costs as much as \$175 million in a single year to elect a half-million officials, from president to town clerk, and defeat a half-million opponents.

Laws limiting campaign expenditures were designed to eliminate abuses, but one result has been a proliferation of political organizations. This renders it difficult to determine where assistance should be offered. It may also lead to internal party conflict and waste of both money and energy.

The notion that a contribution of money or labor may be interpreted as an exchange for special privilege, and therefore vaguely unclear, is rooted historically in the spoils system. Civil Service has wiped out a major share of that, but in past years many large political contributions have been given for special privilege in return. As a result, most businessmen, and particularly those dealing with the U.S. Government, have shied away from political involvement. It would seem better not to give than be accused of self-seeking.

However, the best way to forestall any possibility that million-

aires, or big business, or big labor unions could swing an election by major contributions is for all of us to give a little.

If each employed man or woman in the nation were to give \$10 to his favorite candidate or party, the total would amount to \$600 million and more.

As for campaign help, many of us may feel there is nothing we can do but all kinds of help is needed. This may range from compilation of voter lists to distribution of bumper stickers and writing press releases for a campaign speech.

If we help, we become involved, and above all, we need to become more involved in our elective process.

(NEXT: THE VOTER AND HIS PARTY)

"Never look down on politics or politicians. Politics is beneath none of us. Active participation in a political campaign is an American privilege and duty. More such participation by more of us is the soundest and surest way to get men and women of character and intelligence elected to public office."

—Stanley C. Hope  
Former President  
National Assn.  
of Manufacturers

### Northrop Carolina Receives Contract

Northrop Carolina, a Northrop subsidiary, has received \$1.1 million in additional funding from the Department of Defense for the production of parachute ground flare systems.

Total contract value is now in excess of \$2.3 million.

Designed to provide long-duration, continuous illumination, the flares are light enough to be carried, set up and fired by one man. A self-contained unit weighs only 14 pounds and includes 12 flares and a packing case that serves as a launcher. A non-electrical ignition system makes it possible to fire all flares in sequence or only a selected portion of the total unit. Each flare provides up to six minutes of illumination.



# Grievance Procedure—A 'Hot Line' To Management

By Alan C. Morgan, Vice President—Industrial Relations

Back in 1965 and early 1966, our recently retired Corporate vice president—Industrial Relations, William Larrabee, wrote a series of articles about our Northrop employee benefits. These articles were published in the Northrop News and were most helpful to all of us. Since then, a great many new people have joined the Northrop family. It has occurred to me that not only these people but perhaps all of us would benefit if we brought some of those articles up to date and re-published them here.

One of the articles which received recognition all over the country dealt with our grievance procedure. Northrop has always been concerned with every one of its people, as a person and as an individual. I trust that re-publication of this article will bring to mind again that the grievance procedure at Northrop provides a practical and usable "hot line" to management.



Alan Morgan

## NORTHROP GRIEVANCE PROCEDURE

(Reprint from Northrop News, February 16, 1966)

A large oil company in Texas wrote me recently, stating that it had been examining grievance procedures throughout the country and that Northrop's gave the employee the very best of opportunities to present his problems to management and to correct supervisory mistakes or misunderstandings affecting his job. This brought to mind the fact that the ability to be heard and to be protected in one's position is just as important as any of the other benefits which we have at Northrop.

### People Count

The reasons why Northrop goes to such lengths to protect its people are pretty clear. In the first place, your management believes that Northrop people should be treated as individuals and that whatever is important to our people is equally important to our company. Furthermore, your management knows that a worker with a grievance on his chest and on which he can't get a real hearing spends more time brooding about his problem than he does in constructive work. This

is plain human nature. Lastly, supervisors make mistakes just like everybody else and no one would want such a mistake to work unjustly to the detriment of the employee or result in the loss to the company of a good employee. Therefore, the Northrop grievance procedure was set up for nonsupervisory, nonbargaining unit personnel. Every such employee is assured that he can go straight through to company top management, get a fair hearing, and if he is not satisfied with the decision, he can request a hearing before an outside arbitrator, with the company paying the arbitrator's fee and expenses.

The grievance procedure is published in detail in "Working with Northrop," but generally speaking here is how it works: Let us suppose that one of the people in our plant thinks he is being laid off by his supervisor improperly under the company regulations or that he has been wrongfully denied an upgrade or that he has been the victim of discrimination or other such violation of Northrop practices. His first impulse,

of course, is to be mad and upset, but when he has thought the situation over, and not later than seven days after the event happens, he should go to his supervisor, tell him that he intends to follow the company grievance procedure and tell the supervisor just why he thinks he is right and the supervisor is wrong. He may do this either in writing or orally. Perhaps the supervisor will be convinced or will have another solution to the problem. In any event, the supervisor must make a decision within the next seven days. Incidentally, the employee may obtain assistance from his Industrial Relations office in connection with this first step if he so desires.

### Getting Help

If the employee is still unhappy with his supervisor's decision, he should then go right away to the Industrial Relations people in his division who will give him some forms to fill out and will help him summarize his problem, his supervisor's decision, and the action which the employee wishes the company to take.

Industrial Relations people then go into the matter very thoroughly, consult with all appropriate sources of information, perhaps call a conference with the employee and various supervisors, and attempt to reach a satisfactory adjustment. If a mutually satisfactory solution is not worked out, then the supervisor's superior, called the "administrative officer," must make a decision and notify all concerned.

Let us now assume that the employee still isn't satisfied with the decision reached. He then tells his Industrial Relations people that he wishes to go before the Management Appeals Committee, thereby getting the opportunity to discuss the problem openly with the top management of the company. This committee is made up of three people. The Corporate vice president—Industrial Relations usually represents our president, Mr. Jones, on the committee. The employee's director of

Industrial Relations is a member of the committee. The third member of the committee is usually the head of the department concerned. For instance, in Norair the committee might be made up of Jack Mannion, vice president—Manufacturing and Materiel; John Richardson, director of Industrial Relations; and the Corporate vice president—Industrial Relations. In Nortronics, it might be Frank Lynch, vice president and manager, Anaheim department; Elmer Noonan, director of Industrial Relations; and the Corporate vice president—Industrial Relations. At Ventura, in addition to the Corporate vice president—Industrial Relations, the committee might well include George Grogan, vice president—Engineering and Rex Fairless, director of Industrial Relations.

### A Close Look

This committee really goes into the employee's problem. It listens to his case and any witnesses he wishes to bring in. It calls in the supervisor and, in short, gets every bit of information it can on the situation. It then reaches a decision and notifies all concerned.

It sounds as if we are getting a little repetitious but let's assume that the employee is still not satisfied with the decision made. He can then go to arbitration, which means in substance that the employee and the company select an outsider from a list of recognized arbitrators furnished by the government who then hears the case.

All of this sounds pretty complicated but it really is not. Each step must fall within a prescribed time limit so that things move along rapidly. Industrial Relations people are always ready to help the employee in any stage of the proceeding in preparing his documents, lining up his witnesses. The employee may have a fellow employee or a lawyer represent him if he so desires. In short, everything is done to ensure that every individual employee's rights are fully protected and upheld.

### An Example

In conclusion, let me tell you of a recent experience. An ex-employee was talking with me a few weeks ago. He said that he was sorry that he was no longer working at Northrop but that he felt that he had been laid off improperly several years back and was still disturbed about it. When I asked him why he didn't file a grievance, he said that he had been too upset. He did not say so but perhaps he felt, as some people do, that probably the company would back up its supervisor anyway and that even if he won, the supervisor would hold a grudge against him forever.

This gentleman was obviously a fine man who would have continued to be a credit to the company. Certainly he didn't have to file a grievance, but the company would like to have people in this kind of situation do so.

He needn't have had the slightest fear about getting a fair hearing because company management knows that its supervisors can make mistakes and that when mistakes are made they should be corrected. He need have no concern about his supervisor holding a grudge because the right kind of supervisor is anxious to do the right thing and recognizes his mistakes when they are pointed out to him. Even if the gentleman had been found to be wrong about the layoff, he would have had his hearing and would have avoided years of unrest.

### You Must Act

If there is a moral to be read from this story, it is that the company can't know about the individual's problems unless the individual makes them known. The Northrop grievance procedure is there for the employee to use. We hope that he will read it carefully and that he will use it. He will thus be assured of the person-to-person relationship with his management which is so necessary in ensuring that each of us is recognized and treated as an individual.

## FRANK LYNCH NAMED TO ATTEND MIT SENIOR EXECUTIVES PROGRAM

Frank W. Lynch, Nortronics vice president and Anaheim manager, has been selected by the Massachusetts Institute of Technology (MIT) to participate in the Program for Senior Executives.



Mr. Lynch

Mr. Lynch will attend the nine-week spring program at MIT to study a broad range of advanced corporate management techniques. He is one of 27 executives accepted nationally for the program.

An electrical engineering graduate of Stanford University, Mr. Lynch joined Northrop in 1950 and has held his present position since 1961.

The selection of Mr. Lynch brings to 11 the number of Northrop executives selected for advanced executive development programs at such universities as MIT, Stanford and Harvard.

Frederick Stevens, vice president and Nortronics general manager, nominated Mr. Lynch for the program. Thomas V. Jones, president and chairman, approved his selection.

## LABOR DAY HOLIDAY

Northrop Corporation employees throughout California will enjoy a paid holiday Monday, September 2, in observance of Labor Day.

Only those employees notified in advance will be required to work. Normal work shifts resume September 3.

## COLONEL RUDDOCK BOUND FOR TURKEY

Lt. Colonel William Ruddock, deputy Air Force plant representative since 1966, was bid farewell by Norair personnel and members of the AFPR office during a party in his honor.

Colonel Ruddock will report

for duty in Ankara, Turkey, in early September. He was presented the Air Force Commendation Medal by Major General Dan Riley, commander, Air Force Contract Management Division, for meritorious service.

## WISER THAN BEFORE

# New Northrop 'Owls' See Safety Work

Two recent "direct hits" have emphasized the importance of eye protection at Northrop, and have earned Wise Owl Club awards for a crew chief at Norair and an electrician at Nortronics.

This brings to 107 the number of Northrop members of the Wise Owl Club of America, sponsored by the National Society for the Prevention of Blindness. Northrop has been a participant in the program for 12 years.

Denny Wilson, Norair experimental crew chief at Edwards Air Force Base, is now a member of the Wise Owls due to an accident that occurred while he was pressure checking defog lines for a reconnaissance nose installation. A plastic air filter exploded, cutting him around the face and neck. Mr. Wilson's safety glasses were pitted from the impact, but did not break. They were credited with saving his eyes.

Verne Christensen, an industrial electrician at Nortronics Anaheim, became a Wise Owl after being struck on the lens and frame of his safety glasses when a telephone plug he was chiseling from the floor flew up and hit his face. The edge of the floor plug ricocheted off Mr. Christ-

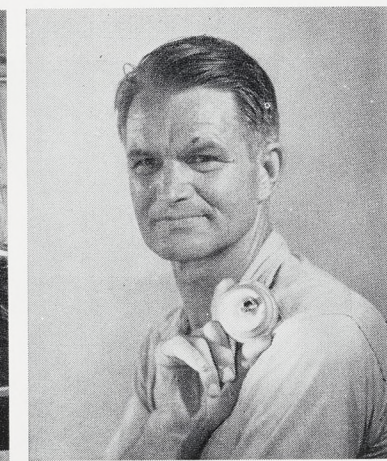
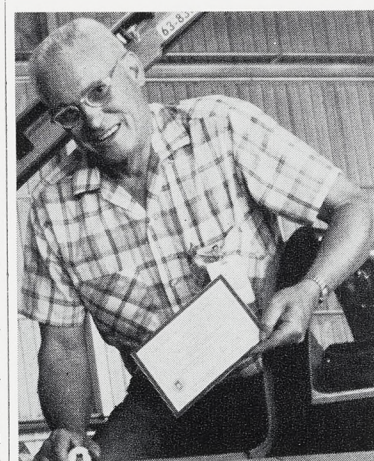
ensen's lens, cutting his face. Again safety glasses were responsible for saving an eye from serious injury.

Each new Wise Owl receives a membership certificate, a lapel pin and shop badge to commemorate his "near miss" and to remind others of the necessity for eye protection.

Employees are reminded by Lee Johnson, chief Safety engineer at Norair, and Al Van Der Most, Safety administrator at

Anaheim, of the minimum requirements for safety lens and frames. Glasses must withstand the impact of a seven-eighths-of-an-inch diameter steel ball weighing 1.56 ounces when dropped on the lens surface from a height of 50 inches.

If prescription safety glasses are not immediately available to those who work where eye safety protection is required, molded plastic goggles or face shields can be checked out at all tool cribs.



THESE WISE OWLS, Denny Wilson (left), a Norair crew chief at Edwards Air Force Base, and Verne Christensen, an electrician at Anaheim, are Northrop's newest Wise Owl Club members.



## WHAT DO YOU THINK?

### Southern California Needs In A Rapid Transit System



Mr. Johnson

**Dick Johnson, art requirement analyst, Nortronics Palos Verdes:**

I proposed a rapid transit system 10 years ago. It has to work in conjunction with the freeways. The most economical system as far as the price of land goes, would be a monorail. A powerline can run it across anything. Not enough people would use a surface system to justify the cost of the land. We've got to have something because people aren't going to ride buses.

**Russell Furno, senior tool and cutter grinder, Norair:**

Something on the order of a monorail that would be sitting above ground, run on rails and be electric. If they had enough lines to commute from your outlying big cities in, it would cut down on the freeway congestion.



Mr. Furno



Mrs. Davies

**Gail Davies, secretary, Ventura:**

Rapid transit is badly needed in the Los Angeles area, because of all the congestion. A new system would work there, since neighborhoods and areas are close to one another. I don't think it could work out here in the Conejo Valley, however. You need a car. Things are just too spread out and decentralized for a rapid transit system to be feasible.

**James Glasco, tool fabricator, Norair Torrance:**

I would say that they need more buses. Where I live in Compton there isn't a bus I can take to work without first going downtown.



Mr. Glasco



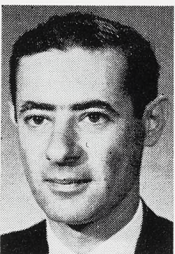
Mrs. Heale

**Elva Heale, secretary, Norair:**

A monorail. I think it would be faster. It could follow the freeways so that much of it would already be paid for. It might help lessen the number of accidents; although I think a great many car accidents are on the surface streets.

**M. N. Padwa, director, Systems Assurance, Ventura:**

They should do five things: take money appropriated for freeway construction for a rapid transit system; employee trunk lines—trains and electric buses; make all vehicles electrically operated; use only those requiring small right-of-way or new facility cost; establish reasonable fares and time tables.



Mr. Padwa

## MEXICAN GROUP TOURS NORAIR FACILITY

A group of Little Leaguers from San Felipe, Mexico, toured Norair's Hawthorne Facility recently as part of an annual "baseball holiday."

The Hawthorne Diplomats Association, a local civic organization, brings a group of San Felipe Little Leaguers to Hawthorne

for two weeks every summer.

The boys stayed in private homes and were provided other necessities for the visit, such as baseball uniforms, by various Hawthorne civic groups.

The Mexican team traditionally plays a series of games against local Little League teams.



Mexican Little Leaguers Visit Norair

## TALENTED LENSMAN

### Variety Important in Saldana's Life

If variety is the companion of excitement, Dave Saldana has had a good deal of excitement in his life.

To get from the bull ring in Juarez, Mexico to a photolab in Hawthorne, California, is a long journey, but Mr. Saldana, a Norair photographer, has somehow managed it with a few stops in between.

He was born in El Paso, Texas, and had but one ambition. That was to follow in his father's footsteps and become a bullfighter. He actually killed two bulls in the old Juarez arena.

"I guess I had to try it at least once to get it out of my system and now that I look back through the years, I guess I had more guts than brains," said Mr. Saldana.

However, he kept a promise to his mother and turned to cameras instead of the cape and sword.

World War II service as an Army Signal Corps photographer provided the basic training, study at the Fred Archer School of Photography, the polish for his career.

Mr. Saldana has worked for a news service supplying material to Spanish newspapers for the past 20 years. He is also photo editor of "Grafica," a Spanish language family magazine distributed around the world.

His career has included coverage of top sporting events, political campaigns and entertainment media. He has photographed many well-known personalities, including the winners of the last 19 Academy Awards competitions.

Contacts made in the course of one career led him to another—songwriting. He uses his language capability to do lyrics in Spanish or English, since converting from one to the other requires a complete revision of meanings.

He wrote Spanish lyrics for a Dean Martin hit, "Memories are Made of This" that won a gold record in Mexico. He and Jack Strumpf of Norair's Art department wrote English-Spanish lyrics for an all-time Herb Alpert favorite, "Cinco De Mayo."

Mr. Saldana now has 14 tunes out, including English lyrics for "Guadalajara," "Malaguena," and Spanish lyrics for "On the Street Where You Live" and many others. He has written both music and lyrics for four tunes being arranged for recording by Pedro Vargas and Juanito Mendoza.

Mr. Saldana, father of three boys, has enjoyed an interesting and rewarding journey.



**LATIN FLAVOR** — Dave Saldana (right), Norair photographer, and Ricardo Montalban, film star, share a laugh. Mr. Saldana doubles as photo editor of a Spanish language magazine.

## Cross Chosen to Play In World Chess Match

Robert Cross, a Norair senior engineer, has been selected by the International Correspondence Chess Federation as one of six men to represent the United States in the ICCF World Team Championships to be played from September 1968 through August 1970.

The championship, which begins each Olympic year, involves 25 countries and 150 players. Games are conducted through the mail with players indicating their moves to opponents by post card.

The United States will be playing in a section including England, France, West Germany, Japan, Sweden, Czechoslovakia and Bulgaria.

Mr. Cross was selected for the team because of his familiarity with international correspondence play; his membership in the Correspondence Chess League of America; his holding of master rank in the U.S. Chess Federation; and the recommendations of several prominent U.S. players.

An average chess game between experienced players usually goes 40 moves, according to Mr. Cross. For a game conducted by mail within the U.S., there is a gap of five days between moves. This period reaches 12 days for countries outside the Iron Curtain and 20 days for nations behind it.



**CHESS MASTER** Robert Cross, Norair, contemplates a move in a practice game for the International Correspondence Chess Federation's World championships. Mr. Cross has been selected by the ICCF to be one of six players representing the United States in the international competition.

## Special Radio Offer Announced By Hallicrafters

The Hallicrafters Company has announced a special employee offer on radio equipment for all Northrop Corporation, subsidiary and affiliate personnel.

The special sale is in effect September 1 through December 24 and features such items as the CR3000 hi-fi component type receiver, clock radios, portable direction finders and code learning outfits.

The sale represents savings of up to 35 per cent off regular employee prices and up to 60 per cent off list prices.

Price sheets, order forms and other information are available at Personnel Activities offices throughout the corporation.

Forty-eight items are included on the special sale price list. West Coast deliveries of in-stock items take approximately 10 to 14 days from the date of receipt at Hallicrafters.



# Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

**Automobiles For Sale**

**Station Wagon**, 1962 Oldsmobile, full power, & air, \$850. 213-731-2964. A

**Chevrolet**, 1958, convt., \$100. 213-326-1409. A

**Pontiac**, 1961, 2-dr., \$335. 213-541-1568. A

**Station Wagon**, Volkswagen, squareback, \$1,750. 213-870-1749. A

**Corvette**, 1967 Fastback, 4-spd. stick, AM-FM, 300 h.p., \$3,600. 213-679-7840. A

**Dart**, 1964 GT, 4-spd., r/h, \$950. 213-372-5367. A

**Volkswagen**, 1966, \$1,400. 213-864-7560. A

**Chevrolet**, 1956, 2-dr., 265 eng., \$350. 213-842-6958. A

**Porsche**, 1958 coupe, \$1,500. 213-377-7391. A

**TR-4A**, 1967 convt., r/h, h/top, cover, \$2,700. 213-679-2791. A

**Truck**, 1964 Chev. 1/2-ton, V-8, custom cab, p/s, p/b, std. shift, r/h, \$1,397. 213-371-1096. A

**Pickup Truck**, 1956 Ford, all s/w gages, \$850. 213-429-1114. A

**Camper Van**, 1967 Chevrolet, V-8, std. trans., \$2,600. 213-672-4231. A

**Station Wagon**, 1967 Ford Country sedan, 6-pass., 390 eng., p/s, p/b, a/c, \$2,695. 213-324-2992. A

**Pontiac**, 1963 LeMans, 326 V-8 eng., r/h, p/s, auto. trans., \$850. 213-679-0918. A

**Mustang**, 1967, V-8, p/s, p/b, fac. air, r/h, \$2,485. 213-644-4235. A

**Cadillac**, 1964 Eldorado convt., new Vogue tires, \$2,500. 213-676-5162. A

**Corvette**, 1962, 2 tops, AM-FM, auto., \$1,600. 213-534-1676. A

**Ford**, 1963 Galaxie 500, 4-dr. h/top, r/h, p/s, auto. trans., 390 cu. in. V-8 eng., fac. air, \$995. 213-676-6707. A

**Oldsmobile**, 1967 Cutlass Supreme, 4-dr. h/top, p/s, p/b, a/c, r/h, auto. trans., \$2,600. 213-327-0883. A

**Rambler**, 1960 American, 2-dr., 6 cyl., \$300. 213-938-9788. A

**Cadillac**, 1955 4-dr. sedan, \$200. 213-837-9767. A

**Mustang**, 1967 2 + 2, AM-FM radio, p/s, a/c, r/h, auto. trans., V-8, \$2,300. 213-679-2039. A

**Station Wagon**, Ford, 1958, 390 cu. in., 350 h.p., \$250. 213-675-7381. A

**Chrysler** 300, 1963, convt., full power, \$750. 213-376-0070. A

**Pontiac**, 1964 Tempest, r/h, 3-spd., \$800. 213-679-5101. A

**Metropolitan**, 1957, new hvy. duty batt., \$250. 213-534-2752. A

**Pontiac**, 1965 Grand Prix, full power, a/c, \$2,195. 213-373-3639. A

**Chevrolet** 210, 1957, 4-dr., rebt. 265, 3-spd., floor shift, \$300. 213-674-0146. A

**Austin Mini Cooper S**, 1965, 1275 cc, 92 h.p., twin 1.5 s.u. carbs., extras, \$1,800. 213-326-3645. A

**Ford**, 1937 coupe, Chev. powered, \$650. 213-672-1738. A

**Chevrolet**, 1961 Impala, 4-dr., 283 eng., p/s, p/b, r/h, \$560. 213-327-2033. A

**Dodge**, 1967 Dart, 2-dr., 6 cyl., auto., \$1,850. Box 1701. A

**Station Wagon**, 1965 Fury III, fac. air, rack, auto., V-8 383, r/h, p/s, p/b, \$1,900. 213-370-2234. A

**Pickup Truck**, 1967 GMC, 3/4 ton, V-6, hydra., extras, warranty, \$2,195. 213-378-4959. A

**Oldsmobile**, 1956 88, 4-dr. h/top, p/s, p/b, r/h, auto., \$150. 213-321-2674. A

**Sunbeam**, 1965, Tiger, Edelbrock manifold, 4-bbl., cam, solids, posit., \$1,995. 213-638-6960. A

**Mustang**, 1967 GT 390, 4-spd., air, power, d/brakes, extras, \$2,895. 213-323-4257. A

**Volkswagen**, 1968, auto. trans., r/h, 4,000 miles, extras, \$150 & take over \$1,861.27 bal. 213-375-4423. A

**Comet**, 1962 2-dr., 6-cyl., \$450. 213-374-6952. A

**Volkswagen**, 1967 Dune Buggy, h/top, tow bar, \$1,700. 213-676-9488. A

**Volkswagen**, 1967 squareback, \$1,950. 213-596-9748. A

**Buick**, 1963 Skylark, V-8, p/s, \$995. 213-830-6163. A

**Station Wagon**, 1959 DeSoto, 9-pass., r/h, p/s, p/b, auto., \$350. 213-644-1649. A

**Ford**, 1959 Ranchero, V-8, p/s, r/h, auto. trans., \$300. 213-376-5482. A

**Mustang**, 1967 convt., V-8, auto. trans., p/s, p/disc brakes, new tires, \$2,200. 213-377-9666. A

**Corvette**, 1966 convt., 327/350 h.p. eng., 4-spd., close-ratio trans., posi., AM-FM radio, \$2,900. 213-379-8933. A

**Station Wagon**, 1959 Plymouth, V-8, full power, auto., r/h, \$195. 213-324-9593. A

**Automobiles For Sale**

**Oldsmobile**, 1966 Cutlass Holiday cpe., auto., p/s, p/b, \$2,300. 714-525-7379. A

**T-Bird**, 1956, auto., \$1,350. 213-860-1807. A

**Plymouth**, 1954, \$15. 213-370-8445. A

**Station Wagon**, 1960 Chevrolet, V-8, auto. trans., r/h, \$350. 213-377-4251. A

**Pickup**, 1967 Chev. 3/4-ton, custom cab, hvy. duty equip. w/8' cabover Holiday camper, \$3,500. 213-284-0768. A

**Household Items For Sale**

**Stove**, 36", white, \$25. 213-675-5695. B

**Refrigerator**, apt. size, \$25. 213-671-9598. B

**Sofa**, 9', grey, \$45. 213-886-9252. B

**Stove**, Gaffers & Sattler, \$30. 213-377-7317. B

**Silver Service**, 10-pc. by Derby-International, \$95. 213-378-2564. B

**Mixer**, Sunbeam elec., seldom used, \$15. 213-758-9182. B

**Chair**, custom designed recliner, maroon, \$75. 213-671-8992. B

**Bed Rails**, child's, \$4. 213-372-7875. B

**Washer & Dryer**, piggyback Westinghouse, \$50. 213-671-6592. B

**Dresser**, modern walnut, 6-dwr., matching wood framed mirror, \$40. 213-346-3751. B

**Dinette Set**, 4 chairs, extra leaf, bronze, formica top, \$25. 714-879-7625. B

**Refrigerator**, Coldspot, \$40. 213-545-3495. B

**Range**, Kenmore Classic, gas, fully auto., \$175. 213-670-8837. B

**Washer**, Lady Kenmore, \$30. 213-329-9915. B

**Converti-Sofa**, 84", brown tweed, \$35. 213-675-0860. B

**Refrigerator**, Admiral Deluxe, 11' 3", 2 yrs. old, \$85. 213-370-7600. B

**Dining Room Set**, early American, 6 chairs, \$40. 213-671-0560. B

**Dining Room Suite**, Duncan Phyfe, mahogany, 40 x 60 table w/3 12" fillers, 62" credenza, 4 chairs, grey & ruby stripe silk, pad, \$125. 213-292-7603. B

**Washing Machine**, G.E., 3 yrs. old, \$48. 213-675-5019. B

**Chest-of-Drawers**, provincial, 4-dwr., \$5. 213-675-7316. B

**Range**, elec. Frigidaire, \$30. 213-324-8758. B

**Rug**, 12' x 15', wool, light peach, \$60. 213-676-3784. A

**Sectional**, 3-pc., beige, \$25. 213-675-6016. B

**Washer**, G.E., needs work, \$15. 213-644-2607. B

**Sewing Machine**, White, \$50. 213-321-6237. B

**Sewing Machine**, Sew Rite, portable, \$40. 213-677-7421. B

**Clothes Hamper**, child's, white wicker, \$4. 213-835-3869. B

**Sofas**, 2, plastic, 6 ft. each, forest green, \$25 ea. 213-675-6081. B

**Table**, maple refectory, 52x36, 4 chairs, \$75. 213-831-1381. B

**Furniture**, 3 complete rooms of French provincial, \$850 or sell sep. 213-373-1266. B

**Stove**, refrigerator, \$70. 213-645-3279. B

**Stove**, 4-burner, gas, \$45. 213-754-4510. B

**Stove** Bltins, copper, Tappan top & dble. ovens, \$40. 213-328-7989. B

**Mattress**, box springs, twin size, \$45 set or \$80. 213-323-8213. B

**Washer**, wringer type Speed Queen, w/stainless steel tub, \$30. 213-329-3721. B

**Miscellaneous For Sale**

**Pool Table**, Slate, 3 1/2 x 7, 4 custom cues, all access., \$350. 213-370-8958. C

**Canoe**, 14', hvy. canvas, 700-lb. cap., paddles & pontoons, \$40. 213-894-6551. C

**Motorcycle**, 1960 Harley Davidson, 74 cu. in., many extras, \$750. 213-866-2079. C

**Field Glasses**, 7x35, w/leather carrying case, \$10. 213-430-2619. C

**Tropical Planter**, 7' high, artificial, \$29.50. 213-679-6256. C

**Sailboat**, 12' Firefly class, sloop, rig, trailer, \$595. 213-377-5862. C

**Lot**, in Running Springs, \$4,750. 213-320-6975. C

**Property**, Klamath Forest Ests., Ore., 3.4 acres, \$7,000. 213-675-8390. C

**Record Player**, RCA, 4-spd., \$20. 213-532-7717. C

**Tri-plex**, 2 bdrms. ea., 9 miles from Northrop, carports, \$32,500. 213-537-3098. C

**Tube Checker**, Heath Kit, emission-type, \$35. 213-430-7388. C

**Gun**, 20 ga. pump Savage, 3-in-chamber Springfield Model 67F, 2 boxes shells, 4 yrs. old, \$45. 714-635-8294. C

**Camper Boot**, made for 1965 Ford truck, \$25. 213-371-2948. C

**Pistol**, Mauser 7.65 mm, .32 a. c. p., semi-auto., 1-pc. solid ivory grip, holster & ammo., \$85. 714-539-2098. C

**Bicycle**, girl's 15", \$10. 213-532-7846. C

**Record Player**, portable, hi-fi, 3-spd. changer, \$19. 213-377-5936. C

**Encyclopedia**, 1966 Americanas, 30-vol. set & Harvard Classics, 51-vol. set, both w/ walnut bookcases, \$300. 213-323-1192. C

**Honda**, 1966, 305 Dream, \$450. 714-893-2309. C

**Trumpet**, Olds Ambassador, w/case, \$100. 213-645-0945. C

**Drafting Machine**, Vemco, used once, \$100. 213-376-9600. C

**Exercycle**, \$150. 213-377-8856. C

**Home**, 5-bdrm., 2 baths, heated pool, det. rec. rm. w/bar, grill, fireplace, cpts., elec. heat, dble. gar., \$48,000. 213-379-1708. C

**Miscellaneous For Sale**

**Aquarium**, 20-gal., all access., wrought iron stand, \$45. 714-530-1734. C

**Bird Cage**, 18"x45", w/parakeet & access., \$15. 213-375-0697. C

**Bicycle** Child Carrier, fits over 26" rear fender, \$4. 213-679-7734. C

**House**, 3-bdrm., cpts., dps., screened-in patio, close to Northrop, \$24,950. 213-679-9891. C

**Trailer**, Apache, Buffalo Mesa model, 3 new tires, h/top, sleeps 6, extras, \$895. 213-679-1011. C

**Trailer**, 10' Field & Stream, sleeps 4, stove, refrig., \$400. 213-671-6288. C

**Home**, 5-bdrm., 2-story, patio, fenced yd., cpts., dps., fireplace, bltins, 20 min. from Norair, \$33,500. 213-632-3623. C

**Mini-Bike**, 3 h.p., fenders & lights, \$85. 213-371-1096. C

**Engine**, for 1957 Plymouth, V-8, \$125. 213-679-4464. C

**Home**, split-level, 2-bdrm., 1 1/2 bath, Los Feliz area, \$39,500. 213-663-883. C

**Home**, 5-bdrm., 2 baths, 3-car gar., patio, sprinklers, dps., a/c, near Northrop Ventura, \$38,000. 213-889-8075. C

**Apt. Units**, 8 2-bdrm., on 2 lots, Culver City, \$74,000. 213-837-0989. C

**Honda**, 1966 Scrambler 305, needs minor repair & tune up, \$275. 213-675-7932. C

**Swim Pool**, Doughboy, 24", round, \$45. 213-324-3760. C

**House**, 2-bdrm., cpts., new paint & screen, \$17,500. 213-671-8864. C

**Apt. Units**, 2, on big C-4 lot, \$2,800 dn., & \$65 mo. pymts. on bal., \$14,000. 213-375-5885. C

**Surfboard**, 10', Harbor Cheater, \$70. 213-375-4940. C

**Home**, 2-bdrm., det. dble. gar., corner R-3 lot, 1 block from schools, \$19,995. 213-644-3293. C

**Tent**, sleeps 6, umbrella type, \$50. 714-637-6451. C

**Home**, 3-bdrm., family rm., 2 baths, small pool, \$27,500. 213-379-2554. C

**Honda**, 1967 305 Touring, \$425. 213-324-6155. C

**Lot**, 1 acre, residential, 3 miles from Lancaster, water, gas & elec., \$5,500. 213-645-1514. C

**Extension Ladder**, 24', wood, \$10. 213-439-6432. C

**Bicycle**, 2 Royce Union, girl's, \$12 ea. 213-335-3229. C

**Wristwatch**, 1968 Bulova, 17-jewel, never used, \$35. 213-675-0777. C

**Motorcycle**, 1964 Yamaha, 250 cc, \$350. 213-943-0753. C

**Automatic Pilot**, marine, Sperry MK IV, complete, \$75. 213-831-9545. C

**Home**, exposed beam, 3-bdrm., 2 baths, 700 sq. ft. addition framed in, 5 1/2% loan, \$49,950. 213-375-9740. C

**Home**, 3-bdrm., 1 1/4 bath, 2 miles from plant, 6% financing avail., or will FHA, newly decorated inside & out, \$30,000. 213-675-8829. C

**Accordion**, 120 bass, white pearl, 11 treble, 7 bass switches, \$160. 213-375-3756. C

**Surfboard**, Gordon & Smith, model HY III, 9'6", \$70. 213-375-6397. C

**Saddle**, padded western, \$150. 213-834-7535. C

**Wedding Dress**, long sleeve, lace, w/long det. train, size 8, junior petite, \$70. 213-534-2290. C

**Gown**, aqua blue, empire style, lace & chiffon, pleated elbow length sheer sleeves, size 8, \$15. 213-755-7255. C

**Boat**, 12' fiberglass runabout, elec. start Johnson & trailer, \$250. 213-378-4541. C

**Executive Home**, 3,000 sq. ft., near Las Posas Country Club, \$46,000. 805-482-6740. C

**Axle Gears**, rear, 1965 Mustang, std. 2.8-1 ring & pinion, \$25. 213-676-8817. C

**Honda**, CB 160 sports model, extras, \$325. 714-635-0229. C

**Encyclopedia**, The American Peoples, 20-vol., 3-shelf bookcase, \$50. 213-676-2661. C

**Motorcycle**, 1964, R-60 BMW, fully equipped, \$800. 213-438-4801. C

**Surfboard**, Bing, 9' 6", green pigment, \$70. 213-375-5097. C

**Honda**, 1968 P50, extras, \$100. 213-674-4946. C

**Speaker Cabinet**, bass reflex, 31" h. x 21" w. x 16.5" d., for 12" or 10" spkr., \$15. 213-346-9701. C

**Home**, 3-bdrm., tri-level, h/wood floors, sprinklers, elec. kitchen, only min. from Anaheim plant, \$25,950. 714-532-1361. C

**Clarinet**, Silvertone, ebony, lined case, \$75. 213-371-3001. C

**Home**, 3 bdrm., 2-car gar., 2 bathis, cpts., near Alondra Park, \$42,500. 213-321-0020. C

**Boat**, 1966 16' Glasspar, 80 h.p. Johnson eng., trailer, \$1,600. 213-430-5252. C

**Shotgun**, 20 gauge dble., shells, \$30. 213-823-2658. C

**Surfboard**, 9' 4" Rick UFO, speed skag, \$75. 213-835-3301. C

**Picture**, Robert Wood, framed, 28" x 44", "Autumn Leaves," \$8.50. 213-378-1863. C

**Outboard Motor**, 18 h.p. Evinrude, \$175. 213-371-3620. C

**TV Antenna**, Winegard color, model SC-81; 20' mast, 50 ft. shielded co-ax lead-in cable, \$30. 213-788-9709. C

**Manicurist**, Lady Sunbeam, all attachments, never used, \$9. 213-423-4837. C

**Schooner**, 45' Staysail, hand-designed, \$19,995. 213-379-1744, 213-379-3967. C

**Miscellaneous For Sale**

**Game Table**, square, 32" x 32", black leather top, walnut, 4 chairs, \$55. 213-326-0124. C

**Aircraft**, Cessna 140, C-90 300 S.M.O.H., all metal, IFR equipped, other extras, \$3,200. 714-532-1510. C

**House**, in Huntington Bch. area, 5 yrs. old, 3-bdrm., 1 1/4 bath, take over 1st \$14,650 at 6%, \$5,000 dn., \$22,500. 213-866-2785. C

**Building Site**, 1/2-acre in Agoura, horses O.K., water, elec. & phones, \$8,500. 213-783-8271. C

**Boat**, 14', fiberglass o/wood, w/trailer, \$100. 213-532-6425. C

**Lot**, Green Valley Lake, paved road, 60 x 275', near lake, \$3,500. 213-833-4191. C

**Boat**, 16' Glasspar Citation, 80 h.p. Mercury, many extras, lge. whl. trailer, \$795. 213-838-3336. C

**Typewriter**, Royal-Royalite, made in Holland, portable w/case, \$20. 213-472-3400. C

**Snare Drum**, Gretsch w/8 lugs, \$55. 213-325-3452. C

**Sailboat**, 40', 1961 sloop, Lapworth designed, fully equip., many extras, \$19,000. 213-679-7078. C

**Sailboat**, 9 1/2', Teacup class, dacron sails, sand dolly, \$160; w/cartop carrying equip., \$200. 213-321-1655. C

**Aircraft**, Cessna 195, 200 hrs. since major o/haul on 300 h.p. Jacobs eng., \$5,750. 213-374-2915. C

**Tent Trailer**, Apache, 1963, sleeps 4, \$300. 213-679-4863. C

**Aquarium**, 10-gal., stand & access., \$12. 213-835-6492. C

**Typewriter**, Royal manual, noiseless w/stand, recently o/hailed, \$50. Box 1702. C

**Piano**, Gulbransen, studio model, golden oak, \$250. 213-676-8840. C

**House**, 3-bdrm., 2 baths, dble. gar., bltins, 5 min. to Northrop, take over 4 1/2% G.I. loan, \$27,500. 213-327-1797. C

**Bicycle**, boy's deluxe Schwinn stingray, 2-spd., \$40. 213-676-3651. C

**Lawn Equipment**, Merry tiller, Scott spreader, roller aieator, \$100. 213-320-7065. C

**Tape Recorder**, stereo, 4 track, Webcor Regent Coronet, tapes, extras, \$85. 213-329-1705. C

**House**, 3-bdrm., 2 baths, bltins, cpts., patio, \$27,500. 213-325-3724. C

**Clarinet**, standard b-flat Boehm system, \$20. 213-676-5101. C

**Cemetery Lots**, 2, Green Hills Memorial Park, \$300 ea. 213-326-3135. C

**Beach Cottage**, 1-bdrm., on 1/2 lot, 2 blks. from ocean, \$25,000. 213-545-6171. C

**Trailer**, 17' Terry, elec. or ice refrig., spare whl. & tire, 2 butane tanks & jacks, newly painted outside & in, \$750. 213-326-9107. C

**Cemetery Lots**, 4 in Eventide Sect. of Green Hills Memorial Park, incl. perpetual endowment care, \$1,560. 213-376-4677. C

**House**, 3-bdrm., 1 1/2 baths, fireplace, lge. corner lot, 15x35 enc. swimming pool, sprinklers, \$22,995. 213-343-6213. C

**Fall**, 100% human hair, worn 7 times, blond, \$35. 213-373-1262. C

**Boat**, 16' fiberglass Glastron, 1966, 90 h.p. out/bd. Mercury, used approx. 35 hrs., trailer, many extras, \$2,300. 213-596-2542. C

**Dog**, great Dane, female, fawn, 2 yrs. old, \$300. 213-752-2717. C

**Uniforms**, Hawthorne Christian School, boy's sizes 10, 12 & 6; girl's sizes 6X, 10 & 12, 75¢ ea. 213-672-2874. C

**Wanted to Buy**

**Stove**, 3-burner Coleman & lge. cap. ice chest. 213-396-3825. D

**Gun**, 45 automatic, U.S. Gov't issue. 714-538-8634. D

**Tent Trailer**, w/stove, ice box, & radio antenna, 10 meter, amateur, reasonable. 714-528-9227. D

**Snow Skis**, poles, & bindings. 213-674-8997. D

**Adding Machine**, elec. or manual. Box 1703. D

**Tires**, 6.50x15 or 6.70x15. 213-423-1363. D

**Dinette Set**, 5 piece. 213-376-5810. D

**For Trade**

**Seats**, 2, in orchestra section for Cabaret matinee, August 29, trade for seats any other date. 213-379-8977. E

**Free (To Be Given Away)**

**Kitten** & young mother cat. 213-329-1018. F

**Semi-Poodle**, Rene'. 213-644-4339. F

**Kittens**, approx. 2 mos. old, & small dog, mixed terrier, approx. 6 mos. old. 213-672-0426. F

**Rentals Offered**

**Home**, 4-bdrm., 2 baths, stove, refrig., 2-car gar., children & pets, \$165. 714-847-8140, 213-860-5288. G

**Apt.**, 3-bdrm., 2 baths, f/place, bltins, cpts., dps., 2 blks. from Northrop, \$225 mo. 213-676-9802. G

**Condominium Apt**, 4-bdrm., maintenance free, pools, recreation, \$315 mo. 213-325-5609. G

**House**, 2-bdrm., Inglewood area, \$150 mo. 213-823-1910, 213-823-5225. G

**Apt**, 1-bdrm., gar., unfurn., 2 miles from Norair, adults, no pets, \$90 mo. 213-674-0755. G

**Cabin**, Green Valley, \$25 w/end; \$45 wk. 213-324-0649. G

**Cabin**, Green Valley Lake, \$35 w/end; \$55 wk. 213-320-2002. G

**Rides and Riders**

**Rides Wanted**

**7 a.m. — 3:42 p.m.**

**From Huntington Beach Vicinity**. Joan Vortouni, Norair, ext. 1174, 714-968-1412.

**7:30 a.m. — 4:15 p.m.**

**Bolsa Chica & McFadden**, Huntington Beach. Sandy Korkoski, Norair, ext. 1456, 714-892-6006.

**Western & Pacific Coast Hwy.**, Lomita. Mornings only or both ways. Freda Wasule, Norair ext. 1255, 213-326-3813.

**Sepulveda & Maple**, Torrance. Vicki O'Donnell, Mariposa, ext. 4191, 213-534-3454.

**8 a.m. — 4:45 p.m.**

**Ventura Fwy. & Moorpark Rd.**, Thousand Oaks. Donald L. Faye, Nort. Haw., ext. 517, 213-781-7317.

**Rosecrans & Central**, Compton. Carl Spears, Norair, ext. 1314, 213-636-7030.

**Rides Offered**

**7 a.m. — 3:42 p.m.**

**From Huntington Beach Vicinity**. Joan Vortouni, Norair, ext. 1174, 714-968-1412.

**8 a.m. — 4:45 p.m.**

**Ventura Fwy. & Moorpark Rd.**, Thousand Oaks. Donald L. Faye, Nort. Haw., ext. 517, 213-781-7317.

**Rentals Offered**

**Apt**, 1-bdrm., unfurn., closed gar., \$85. 213-756-0100. G

**Apt**, 2-bdrm., 1 mile from Norair, \$130 mo. 213-675-5467, 213-676-7423. G

**Cabins**, Lake Gregory & Crestline, sleep 6, \$25 w/ends; \$60 wk. 213-391-2040. G

**Apt**, 3-bdrm., unfurn., bltins, adults, in Inglewood, \$175. 213-674-1769. G

**Exec. Apt**, 2-bdrm., 2 baths, 1,450 sq. ft., in Inglewood, \$195 mo. 213-670-6084. G

**Apt**, cpts., dps., bltins, all elec., closed gar., 20 min. to Norair, 1 & 2-bdrm., furn. & unfurn. \$95-130. 213-375-9397, 213-375-2091. G

**Rentals Wanted**

**House**, unfurn., 2 or 3 bdrms., 1 1/2 baths, cpts., dps., adults, no pets, \$150 to \$175 mo. 213-323-1580. H

**Personals**

**Wanted free**, for 2 deserving families, 1 used but working refrigerator, any size, 1 dresser, 2 twin beds, springs & mattresses or



## CHASE RETIRING

## Pioneer Employee to Start New Career

Phil Chase, who joined Northrop when the firm was operating from leased quarters in a Hawthorne hotel, is about to begin a new career.



Mr. Chase

Mr. Chase, for the past five years director of Facilities and Property at Northrop Ventura, was one of the original Northrop employees in August 1939.

He'll be retiring from Ventura next month to become manager and a part owner of Electro-Sail Company, Inc., which operates a small boat marina at Westlake Village and manufactures and sells boats.

Electro-Sail Company was the joint idea of Mr. Chase and some friends, all boating enthusiasts. Seven of them formed a company and began operating the marina at the 160-acre man-made lake earlier this year.

Mr. Chase, who owns a small boat, has been interested in the sport for about 20 years.

More than 40 years have passed since Mr. Chase—then a teenager—moved with his family

from Ishpeming, Michigan, to Los Angeles. He graduated from Fairfax High School in Los Angeles in 1929 and went to work for Lockheed Aircraft Company. The depression caught up with Lockheed in 1932, and Mr. Chase joined the original Northrop Company in El Segundo.

He remained with the company after it became a division of Douglas, but went with John K. Northrop in 1939 when Mr. Northrop opened his aircraft company at the Hawthorne Hotel.

"We even had airframe prototype construction going on in hotel rooms," Mr. Chase recalls. "Then, in 1940, Plant One was completed and we shifted our operations."

Mr. Chase was in charge of Purchasing and Materiel from 1939 through 1946, when he left the company—a move he remembers as "the only thing in my career I ever really regretted." Five years later, he returned to stay, and was once again assigned to Purchasing.

In 1953, a transfer took him to Northrop Ventura—then the Radioplane Company, a subsidiary. He was Materiel director until 1957, and, in that year, became Radioplane's vice presi-

dent and manager of Manufacturing. He served in that position through 1961.

"We're all looking forward to devoting more time to the boat business," he said. "We opened earlier in the year, and we're eager to see what will happen."

Mr. Chase and his wife Genevieve live in the Conejo Valley. They have two grown children—a son and a daughter—who are both married, and four grandchildren.

## Rex Fairless Will Teach At UCSB

Rex Fairless, director of Industrial Relations, will teach one of two graduate level courses in Ventura this fall under the direction of the University of California at Santa Barbara extension program.

This marks the first time that graduate level business administration courses have been offered through the UCSB extension.

Mr. Fairless will teach Elements of Industrial Relations, a four-unit course, from 7 to 10 p.m. Tuesdays from September 24 through December 17 in Room 103 of Ventura High School, 2155 E. Main Street.

The course will include principles and methods of utilizing human resources in organizations; the relationship between social, economic and other environmental factors; and current problems in industrial relations.

Also offered this semester will be Behavioral Science Foundation, a four-unit course, which will be taught from 7 to 10 p.m. Tuesdays from September 24 through December 10 in Room 91 at Ventura High.

Additional information may be obtained by contacting Chuck Borst of Professional Development and Training on ext. 1180. Information on UCSB on-campus courses may be acquired from school registration officials.



**CERTIFICATE OF COMPLETION**—Ed Frangos (left) and Doug Sessions display the type of certificate received by 42 Northrop Ventura employees following completion of an American Management Association course, "Basic Principles of Supervisory Management." Mr. Frangos and Mr. Sessions were conference leaders.

## Forty-Two Finish Class On Management Concepts

Forty-two Engineering employees from Northrop Ventura this month completed an eight-week American Management Association course, "Basic Principles of Supervisory Management."

The course outline included a definition of management, planning, organizing, controlling, standards and appraisal, communications, decision making and motivation. Conference leaders were Doug Sessions, supervisor of Reproduction and Release, and Ed Frangos, supervisor of Thermodynamics.

The group met weekly for two-hour sessions at the Los Robles Inn. A more advanced AMA course, "Developing Supervisory Leadership Skills," is being planned, Mr. Sessions said.

"We hope to repeat the course on Basic Principles of Supervisory Management," he said, "when the need arises. We have designed the presentation so as to depict basic principles as they can be applied to everyday work situations."

Employees who completed the course will receive certificates from the American Management Association. They are:

S. O. Lewis, R. Provart, J. S. Boandl, K. K. Conger, T. B. Jones, Jr., L. P. Como, J. K. Donnell, L. L. Fisher, M. J. Rich, F. H. Fuchs, G. J. Koopman, D. H. Paap, D. G. Everett, H. Kornell, D. E. Martin.

E. M. Diamant, V. R. Lippert, D. W. Lally, R. N. Worth, J. H. Moeller, P. C. Megginson, E. A. Bitney, J. F. Everett, J. H. Meyer, C. H. Swan.

H. D. Parker, H. O. Knecht, A. E. Pearson, R. E. Shewmaker, R. Y. Hoover, R. R. Johnson, L. W. Shaw, R. G. Lemm, J. J. Lawrence, W. W. Bjerke, J. D. Cushman, V. F. Riley, G. W. Bucsis, C. E. Martin, K. O. Waggoner, A. P. Binsacca and J. A. O'Malley.

## BLOOD BANK SETS ALL-TIME RECORD

Last month's blood bank drive at Northrop Ventura was the most successful in the division's history, Elinor Eckels of Medical Services has announced.

"We received 174 pints of blood in one day," Mrs. Eckels said. "This will help us to replenish our account." Blood is available without charge to Ventura employees and their families.

## APOGEE

(Continued from page 1)

ship. New members will receive certificates, and become eligible for consideration to receive "Snoopy" pins from the National Aeronautics and Space Administration. This honor, named for the Charles Schulz cartoon character, is exclusive, as nominees must receive approval from an astronaut. The Apollo astronauts are the only people who can make this award.

## KD2R-5

(Continued from page 1)

ing missiles. The darts, which trail behind the vehicle on a nylon line, attract the missile and thus spare the KD2R-5 from damage.

Denmark this year became the 15th nation to acquire the KD2R-5, for use by the Royal Danish Navy.

## Special Customer Office Established at Ventura

A Customer Correspondence Control office, which will coordinate incoming and outgoing customer communication, has been established at Northrop Ventura.

The office is on the first floor of the Administration Building. Peggy Miller has been appointed Customer Correspondence Control coordinator, reporting to Walt Mann, chief of the Property Management and Communications group.

She was chosen from several qualified candidates, all of whom were interviewed by Mr. Mann.

Robert W. Jenks of Management Systems and Organization conducted a study on requirements of the office by analyzing similar systems at several other companies and Northrop Norair.

"Customer Correspondence Control is basically a service distribution center and master records center for all written cus-

tomers correspondence, wires and TWX messages," Mr. Mann said.

"Formal communications received from a customer or government agency, and those to be dispatched to a similar organization, will be processed by the Customer Correspondence Control office."

Under the system, communications pertaining to customer matters will be forwarded to the coordinator, who, in turn, will channel that item to its proper recipient. All outgoing matters will be handled the same way.

"Copies of outgoing and the original of incoming customer correspondence and communications will be retained and filed in sequence in relation to a given contract or subject matter for record purposes. Another advantage will be the reduction in filing requirements of the concerned organizations and clerical staffs, as copies of all customer correspondence will be available for review and reproduction, should they be needed.

"The filing of incoming and outgoing customer wires and TWX will be eliminated in the communication center, as they will be maintained in relation to the contracts or subjects by Customer Correspondence Control," Mr. Mann said.

He said the need for the new system was brought about by Northrop Ventura's growth.

## THEATRE DISCOUNT

Discount tickets for Tennessee Williams' "Camino Real," now playing at the Mark Taper Forum, are available through Personnel Activities.

Regularly \$6.30, the tickets are selling for \$3.50. Sunday performances on September 8, 15 and 22 are available. All performances begin at 7:30 p.m.



**PEGGY MILLER** stands at the window of her new office, the office of Correspondence Control. She was named this month to the new position, and will coordinate all incoming and outgoing correspondence dealing with customer requirements and other items.



**A HAPPY REMINDER**—Snoopy, the Charles Schulz cartoon character, has been "adopted" by the National Aeronautics and Space Administration as symbol for the Apollo Program. A "stack," of course, is a multi-stage rocket. "Decked" means delayed or aborted.



# NORTHROP NEWS

VENTURA EDITION

Northrop Corporation, Beverly Hills, California

Vol. 26, No. 18

September 11, 1968

## REGISTRATIONS

An estimated 76 Northrop Ventura employees have registered to vote in the November 5 general election through in-plant deputy registrars.

A significant number of employees registered for the June primary election, according to Johnnie Via, of Employee Relations.

## Officials Tell Approval Of Study Team Review

Top officials at Northrop Ventura have praised the recent study team review of divisional operations, calling it "worthwhile," "an excellent approach" and "a good program."

The study was conducted early in the summer by seven teams

made up of personnel from various divisions and subsidiaries of the corporation. Nearly 1,500 Ventura employees were interviewed, and more were contacted through questionnaires.

Recommendations were made as a result of the study, designed to cut costs and improve operational effectiveness.

Welko E. Gasich, vice president and Ventura general manager, said benefits of the study "have had the net effect of improving the operation of some areas, and shortening lines of communications."

"I was especially pleased," he said, "at the response from department managers to the recommendations made by the study groups. The cost savings have already been significant, and I believe we will continue to derive value from the analysis we received."

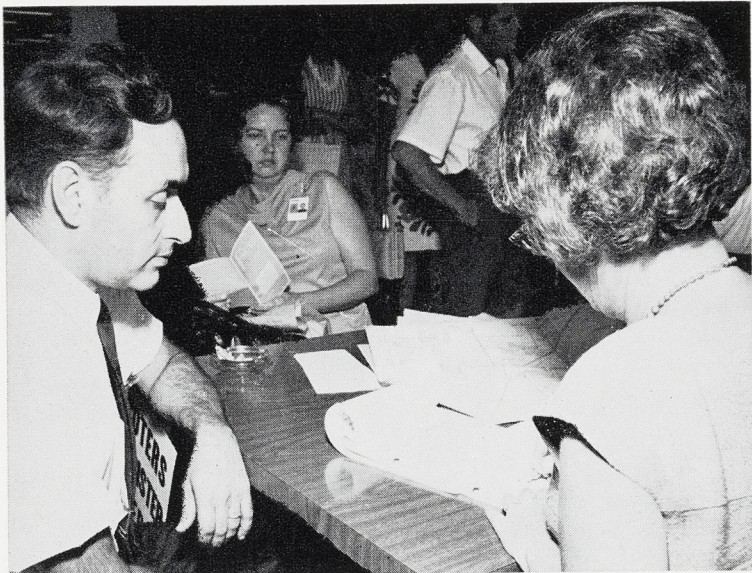
George Grogan, vice president and manager of Engineering, said the successful study "pointed out some of the things which we already knew were problems, and proved that something could be done. In addition, it came up with some new items, as well—items we were not aware of. One of the key factors which led to the success of the study was the participation we received from employees—they originated many ideas which led to divisional operating improvements."

W. F. Sternadel, vice president and manager of Finance, said the study "was extremely worthwhile. It took a deep and objective look at our operations. I consider it an excellent approach, and good training for those who participated."

George Johnson, acting manager of Quality Assurance, said he believes the analysis "was a good communications device between employees and management."

H. E. Riggins, vice president and assistant general manager, called the analysis "a good program—motivating both employees and management, to improve the whole range of their responsibility."

The study was the largest and most comprehensive in company history.



*ELECTION DAY NEARS—Northrop Ventura employees gather to register to vote during a recent visit to the plant by a deputy registrar. An estimated 76 employees registered to vote in the November 5 general election.*

## First Flight of MQM-74A Conducted at Point Mugu

The newest member of the United States Navy's family of remote controlled target aircraft has completed its first demonstration flight at the Navy's Pacific Missile Range at Pt. Mugu.

The unmanned MQM-74A, designed and produced by Northrop Ventura, was flown on August 26 off the Southern California coast. The flight was conducted by Northrop Ventura under terms of a separate contract. Ventura has a production contract, awarded by the Naval Air Systems Command.

The MQM-74A, designed to provide realistic training for anti-aircraft gunnery and missile crews, can fly at speeds up to 400 knots and at altitudes from sea level to 20,000 feet.

On the first flight, the altitude hold and visual augmentation

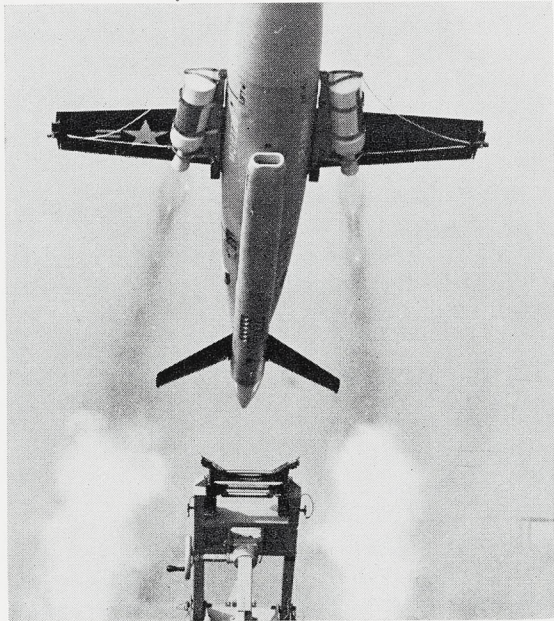
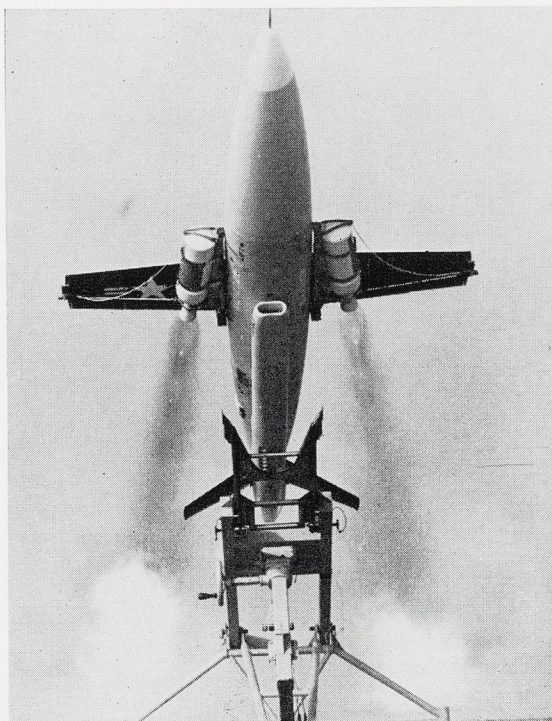
equipment was tested. The flight's duration was 26 minutes.

Northrop Ventura has sales orders for the MQM-74A in excess of \$19.5 million. Deliveries began in June and will continue through November of next year.

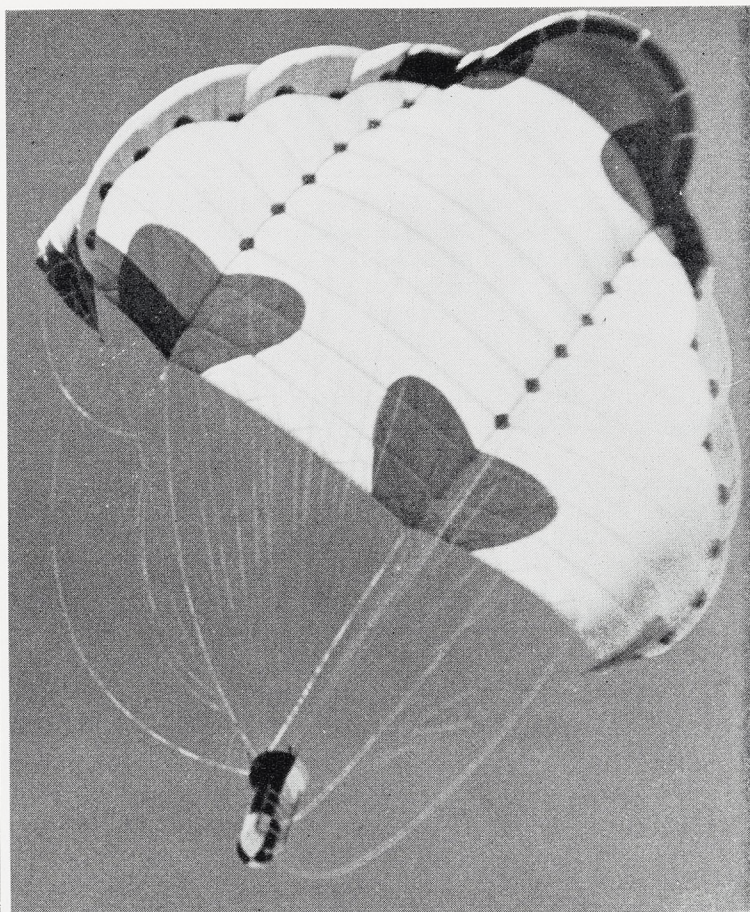
The MQM-74A, originally called the NV-105, is 11½ feet long and has a 5½-foot wingspan. It will be used for crews operating 40mm, 20mm or 50-caliber guns, as well as the Hawk, Redeye, Chaparral and other missiles.

The MQM-74A is powered by a turbojet engine manufactured by Williams Research Corporation. It weighs only 32 pounds but delivers up to 120 pounds of variable thrust.

Program manager for Northrop Ventura is Bill Stowell.



*INITIAL demonstration of the MQM-74A controlled target aircraft is captured in these two photos, ignition at left and blast off above.*



*NEARING TOUCHDOWN—The first test flight of the intermediate scale Parawing, built for NASA by Northrop Ventura, ends in a successful touchdown in the desert near El Centro. The Parawing has a payload capacity of 6,000 pounds, and a 110-foot wingspan.*

## New Parawing Successful In El Centro Test Flights

The first and second successful test flights of the largest Parawing ever built have taken place at the Department of Defense Parachute Test Facility at El Centro.

The most recent test took place on August 29, just six days after the first test of the new Parawing, which is constructed of 4,000 square feet of coated nylon fabric.

Northrop Ventura is designing, building and testing the all-flexible Parawings for the National Aeronautics and Space Administration's Langley Research Center in Hampton, Virginia.

The August 29 drop was made at an airspeed of 120 knots at an

altitude of 23,500 feet. At 18,000 feet, the Parawing was deployed and at 16,300 feet, the wing was fully inflated and gliding. From deployment to touchdown in the desert, the Parawing and its test vehicle were in the air for 23 minutes.

This version of the Parawing, called the intermediate scale, has a maximum payload capacity of 6,000 pounds and a 110-foot wingspan, equal to that of a B-47 bomber.

The first aerial test on August 23, took place from an altitude of 7,500 feet at an airspeed of 120

(See PARAWING, page 6)

## Line Supervisors Attend Business Procedure Talks

Management seminars designed to acquaint line supervisors with business procedures at Northrop Ventura are under way daily.

The seminars—conducted by Management Systems and Organization—began on August 26. Chuck Merlian, chief of Management Systems and Organization, and four analysts—Gene Cox, Bob Gordon, Bob Jenks and Ted Randolph—are conducting the one-hour sessions.

Fifty line supervisors are enrolled in each of the sessions. Each of the four groups is meeting weekly for four weeks, from 4 to 5 p.m. in the Administration Building assembly room.

The speakers and their topics are:

Introduction, overview of systems; Mr. Merlian.

Business planning, product development and sales; Mr. Jenks.

Proposals, contract acquisition, work release and cost collection techniques; Mr. Gordon.

Product design, test, engineering release, changes and change board activity; Mr. Cox.

Production change board, planning, procurement, tooling, shop release and product support; Mr. Randolph.

"Courses such as these are nec-

essary," Mr. Merlian said, "because of rapid growth within the company. We have expanded from 1,200 employees to more than 1,800 in less than a year."

## Duke To Direct Planning for Marine Systems

Gus Duke, who recently returned from Stanford University where he participated in the Stanford Executive Program, has been named director of Marine Systems Planning.

Mr. Duke had been manager of Northrop Ventura's Mobile Anti-Submarine Warfare Target Program.

Welko Gasich, vice president and Ventura general manager, made the announcement, calling Marine Systems "one of the major product areas within Northrop Ventura. Our division business plans and sales growth call for an expansion in the various Marine Systems product areas. Mr. Duke will provide the leadership for determining the division objectives in this new field."

Mr. Duke will report to T. E. Flannigan, vice president of Marketing.



## NORTHROP NEWSMAKERS

**D. D. Gregor**, Norair, has written a paper titled "The Impact of Maintainability Analysis on Aircraft Design" for presentation at the October 7-11 meeting of the Society of Automotive Engineers, Aeronautic and Space Engineers and Manufacturing meeting in Los Angeles.

**Bertram G. Ryland** has joined Warnecke Electron Tubes, Inc., as a staff consultant to **James W. Schwartz**, general manager. Warnecke is affiliated with The Hallcrafters Company, a Northrop subsidiary.

**Reece Thompson**, Norair, has presented a paper titled "Automated Production Planning System at Norair" at the Santa Monica Bay Chapter, American Society of Tool and Manufacturing Engineers' technical meeting.

**Barny Gaiennie**, Norair director of Manufacturing Research and Development, was the subject of a feature article in a recent issue of Metal Working News. Titled "Norair's Gaiennie—Man With a Mission," the article discussed present and fu-

ture possibilities in machining and working with metals.

**Richard C. Anderson**, the son of **James C. Anderson**, Norair, has been promoted to sergeant in the U.S. Marine Corps. Sgt. Anderson is serving with the Seventh Engineer Battalion, First Marine Division, in South Vietnam.

**Waldo W. Neikirk** has joined Northrop as director - Financial Planning and Controls, reporting to **J. Grant Macdonnell**, vice president and controller.

Mr. Neikirk holds an M.B.A. degree from the Harvard Graduate School of Business and comes to Northrop from a subsidiary of Hughes Aircraft Company.

**Verlin Seaman**, ext. 2131; **Anne Fitzgerald**, ext. 1201; and **Carol Clement**, ext. 2721; all of Norair, are accepting reservations from Northrop secretaries interested in attending an orientation dinner of the Airborne Chapter, National Secretaries Association. The dinner will be held at the Inglewood Golf Course Restaurant September 26.

## Employee Gifts Exceed Pledges To Charity Fund

Generous Northrop Corporation employees have given record amounts in support of community health and welfare agencies over the past year through their contributions to AID-NORAIID.

Final 1967-68 fiscal year tabulations indicate employee contributions topped \$333,672. This not only exceeded the previous annual high of \$300,000, but also surpassed the \$329,000 pledged at the beginning of the year.

Since joining the AID concept of community giving in 1955, Northrop employees have contributed \$3,207,026.

A majority of funds given by Northrop employees is used to support 13 major causes to which AID-UNITED GIVERS funds are allocated. The remainder is returned to Northrop for use in its own internal NORAIID program set up to assist personnel in time of need.

Northrop employees support both efforts through weekly payroll deductions.

## Page to Study Communications Systems at UC

The University of California has awarded a contract to Page Communications Engineers to conduct a study to determine how modern communications can best serve its nine-campus system in the 1970's.

Page, a Northrop subsidiary, will study telephone, teletype, data transmission and television services linking the campuses. A plan for a management report system permitting better direction of the entire communications system will be included.

Management of operating procedures will be reviewed on all campuses with detailed reports prepared for Berkeley, Los Angeles, Davis and San Diego campuses.

The study, to be completed in December, will be carried out in cooperation with the Pacific Telephone and General Telephone companies.



HALLCRAFTERS Company display at the recent Los Angeles WESCON show drew a steady stream of visitors to see the many Hallcrafters radio and communications items available through the Northrop subsidiary.

## VENICE FACILITY

## Northrop Job Center is Now Open

Northrop's new Venice facility for recruiting and training previously unemployable people opened its doors to the first class of 51 people on September 3, according to L. H. Walton, program director. Succeeding classes will start at six week intervals. It is expected that some 140 people will enter training under the program over a 15-month period.

The 11,000 square foot Venice facility, called the Northrop Job Center, is staffed with about 10 remedial and vocational education specialists, and administrative personnel. Classroom furnishings and training equipment are from surplus Northrop stocks.

Northrop Norair employees making up the staff, besides Mr. Walton, include C. L. "Chuck" Beuchat, supervisor of skills training; Louis Williams, vocational instructor; and E. R. Goodrum,

Program Planning and Proposals. Jack Cushman, of Norair General Personnel Administration, is interviewing prospective trainees, and Dr. Richard J. Krebsbach is giving pre-employment physicals.

Important help in recruiting and interviewing prospective employees for the program is being provided by the Venice Westside Occupational Development Center, a volunteer community group, and the State Employment Service.

Carried out under a contract from the U.S. Department of Labor, Northrop's Venice effort is intended to implement plans of the National Alliance of Businessmen, established at the request of President Johnson. Northrop President Thomas V. Jones is a district chairman for the alliance.

The first class and others to follow will receive basic remedial

education and vocational training to achieve the classification of aircraft structural assembler. Job assignments will then be made to Norair assembly facilities.

Students will be on the company payroll, with normal fringe benefits, as soon as they begin training. When necessary, they will receive transportation and be provided with minor medical care such as corrective eye glasses, hearing aids, and dental work.

To qualify for the program, a recruit must be a needy person, as defined by the Labor Department, and either unemployed or under employed.

A third stipulation is that the person must be either (1) under 22 or over 44 years of age; (2) a member of a minority group; (3) a high school dropout; or (4) handicapped.



NEW OFFICERS participating in Northrop's Education With Industry program, administered by Harry Blocher (left), supervisor of Customer Training at Norair, are, from left, Captains

Keneth Hughes, Lee Whitley, David Martin and C. B. Lowery, jr. Mrs. Pat Altieri, Norair Badge Control, accepts their applications for badges.

## All-Northrop Luau Planned For October 5

Northrop Recreation Clubs have joined forces to reserve the famed "The Tikis" party center in Monterey Park for an all-Northrop Luau October 5.

Tickets, at \$6 per person, are now available through Personnel Activities offices throughout Northrop facilities.

The price includes admission to the lavish four and one-half-acre layout that includes many island motif features, special island entertainment, dinner and dancing.

Regulations restrict admission to adults 21 years of age or older, however.

This is the second NRC Luau at this location.

## Sea Anglers Pick Monthly Winners

Winners of the July NRC Sea Angler's fishing derby are Rick Wilson, first; William Kron, second; Don Caughlin, third; and Curtis Fuller, fourth.

Winners of the albacore derby are Stan Eckland and David Cribbs, tie for first; Pete Stanzions, third; and Andy Krauszer and Bob Wilson, tie for fourth.

## USAF Officers Arrive For Industrial Training

Four U.S. Air Force officers have been assigned to Northrop for 1968-69 by the Air Force Institute of Technology in continuation of the Education With Industry program, according to Harry Blocher, program administrator and supervisor of Customer Training at Norair.

The officers are Captains Keneth Hughes, C. B. Lowery, jr., David Martin and Lee Whitley.

During the 10-month assignment the officers will concentrate

on studying the management aspects of Northrop's business operation. Participating in the study will be the Corporate office and the Norair, Nortronics and Ventura divisions.

In order to be eligible for the EWI program, officers must be screened by an AFIT team and then accepted by the company prior to assignment.

The total AFIT program has more than 130 officers assigned to 40 industrial organizations. Northrop has been a participant since 1951 and has had 37 alumni.

## 'HARVEST OF GEMS' OPENS OCTOBER 19

The NRC Gem and Mineral Club's ninth annual "Harvest of Gems" show will be held October 19 and 20 at the Hawthorne Memorial Center, according to Bill Greenwood, show chairman.

The show will exhibit a variety of stones, minerals and cutting material, as well as collections of handcrafted jewelry and mountings and polished or faceted gems.

The show will conclude with a drawing for a portable television set, three \$100 bonds and a camera.

Several dealers in lapidary materials, findings and jewelry will be in attendance for those who wish to shop while at the show.

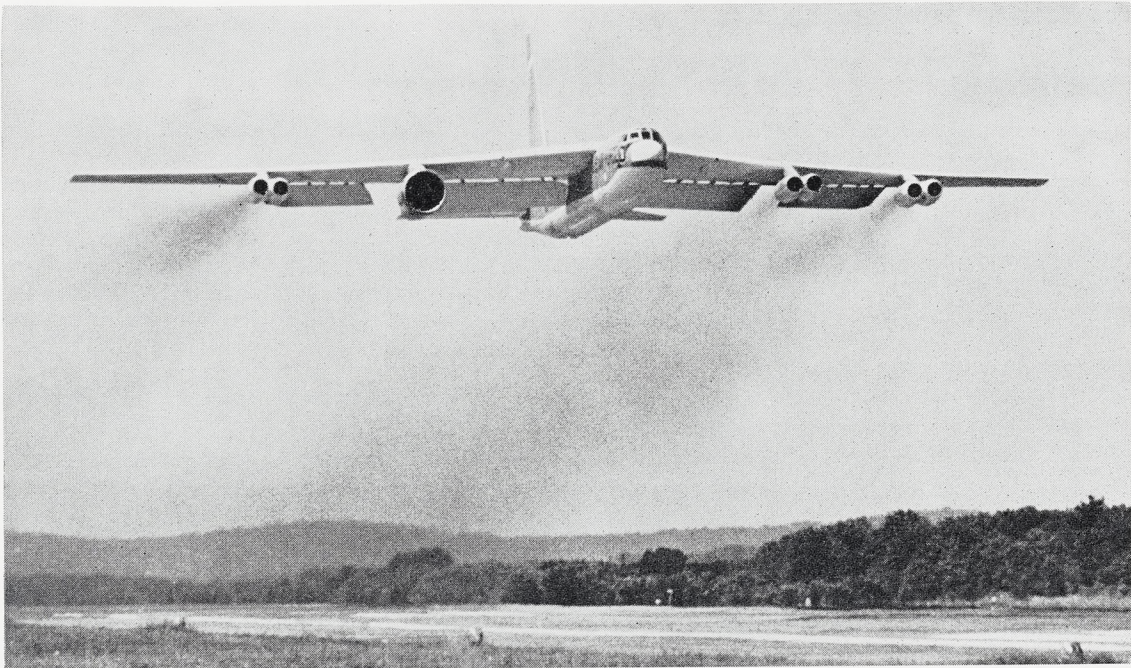
## Disneyland Night Tickets Available

The Association of the United States Army has invited Northrop employees to join in its annual Disneyland Night next month.

The event will be held from 8 p.m. to 1 a.m. on October 18, and 1,500 tickets are available at \$3.75. This price covers admission and unlimited use of all rides.

Employees of all divisions and facilities are invited, association officials said. Tickets are on sale at all Personnel Activities outlets.





UNIQUE TEST BED above is a modified Boeing B-52 bomber with the new JT9D powerplant mounted in left inboard position. JT9D will power the Boeing 747 jetliner. Note ab-

sence of exhaust smoke, a special JT9D feature. It is also quieter than engines in commercial use today. Each JT9D will develop 43,500 pounds of thrust.

#### ABOARD B-52

## Boeing 747 Engine in Flight Tests

(Editor's Note: Contributions to the success of the Boeing 747 jetliner program within Northrop Corporation are well-known to all employees. Other companies are also taking impressive steps in creating a new era in air travel in the 747. The following special report has been prepared to further acquaint employees with the scope of the total 747 Program.)

Pratt and Whitney Aircraft, a division of United Aircraft Corporation, has embarked on a rigorous airborne test program for its JT9D turbofan engine which will power the 747.

In addition, it has delivered the first four flight engines for the initial superjet to be rolled out this fall as well as ground test engines.

Each advanced design JT9D will produce 43,500 pounds of thrust for a total of 174,000 pounds, powering the 490-passenger plane to maximum speeds over 600 miles per hour.

The JT9D has an eight-foot diameter inlet, almost twice that of the 18,000-pound thrust JT3D engine which is the workhorse of the current long-range Boeing

707 fleet.

In spite of its size, the JT9D is quieter than current jet engines and is smokeless in operation. It weighs 8,430 pounds and is only 128 inches long, six inches shorter than the JT3D.

Pratt and Whitney has begun flight tests on the JT9D expected to average two or three flights a week, continuing for a period of several years.

The tests, utilizing a B-52E leased from the Air Force, are an integral part of the over-all engine development program. The objective is to develop the desired performance and operating characteristics and to continue work for growth versions of the engine.

Test flights provide opportunities for test and development under actual flight environment conditions. Such conditions usually cannot be simulated in altitude chambers used in ground tests.

The JT9D test engine is suspended from the right wing of the B-52 in place of the bomber's two standard inboard engines.

Size and availability were the two most important factors which

resulted in the selection of the Boeing-built B-52. It was necessary to obtain an aircraft large enough to accommodate the eight-foot diameter of the engine in a typical, pylon-supported, wing-mounted nacelle, in order to duplicate closely the 747 installation.

Further, the plane had to be capable of handling the thrust levels of the test engine without unusual control problems. The JT9D, which develops 16,000 more pounds of thrust than two of the standard B-52 powerplants, is set up to balance with the thrust of the other engines on takeoffs and landings.

However, at higher, in-flight power settings, the pilot simply has to accept the asymmetric thrust which results from the JT9D's greater "muscle."

Pratt and Whitney has been a leader in commercial jet engines since its engines powered the first U.S. commercial jet, the Boeing 707, into flight. The division is also noted for its military jet engine work.

## Help Sought In Locating Ex-Employees

Thirty-five former Northrop employees are being sought to inform them of vested retirement rights under Northrop's Retirement Plans.

Present employees knowing the whereabouts of these individuals are asked to have them contact ext. 302, Beverly Hills.

Sought are Charles L. Allen, Gerald H. Balzar, Arthur R. Benson, J. G. Brooks, Vincent Bruscia, G. W. Christensen, R. W. Clark, V. E. Cull, C. A. Ferguson, C. T. Fromer, Henry L. Hansen, J. L. Hill, sr., R. B. Hughes, Harold L. Jones, I. Kangas, Harold W. Kennedy.

R. D. Kinkade, Lawrence T. Kveen, Diana C. Lawver, Mildred L. Lorenz, John M. Lynn, David L. Mattix, jr., M. P. McGaffin, Harry Manning, Glenn L. Metz, Thomas D. Morel, Joe Peter Oberta, L. N. Peterson, Edgar U. Peyronnin, Mildred A. Rusch, George J. Sepal, Cecil N. Skelton, Mortimer Smith, Reuben W. Stenman and Evelyn B. Stephens.

## Northrop Earnings, Sales Again Set All-Time Highs

Northrop Corporation's earnings and sales for the fiscal year ended July 31 set all-time highs for the third year in succession, Thomas V. Jones, president and chairman, has announced.

Net earnings for the year of Northrop's diversified aircraft, communications, and electronics business totaled \$15,740,235, an increase of 25.2 per cent over the previous year's earnings of \$12,567,646. Earnings per share were \$3.26, against \$2.68 a year earlier, an increase of 21.6 per cent.

A year ago, earnings per share were reported on the basis of a weighted average of shares outstanding over the year. On this basis, the earnings reported would be \$3.33 per share as compared with the \$2.86 reported a year earlier.

Sales and other income for the year amounted to \$486,838,213, compared with the previous year's \$470,706,838. Backlog of orders totaled \$718,000,000, also the highest in the company's history. Backlog a year earlier amounted to \$604,000,000.

"Contrary to what might be expected, the increased earnings and sales were largely independent of our part in the Boeing 747 airliner project," Mr. Jones said. "While the 747 is a very large project, it has been in its build-up phase and is only now beginning to contribute to sales and earnings."

"Over the past five years our total net earnings have been on a growth trend that averages better than 20 per cent a year," Mr. Jones said. "Based on programs in hand, we look for a continuation of this trend. We expect sales and earnings to continue to increase in the current fiscal year."

"Our military aircraft will continue to contribute to sales and earnings. Deliveries of 747 fuselage sections will increase substantially in fiscal 1969, 1970 and 1971. Over the longer term, the area that is most likely to exceed our expectations is our worldwide business in communications and information systems and in associated electronics."

## Barry Harvey Sweeps Canadian Cycle Event

Over the Labor Day weekend, Barry Harvey pulled off what must rank as one of the biggest sweeps in history in the field of top bicycle riding competition.

Mr. Harvey won all four gold medals presented at the Canadian National Championship races at Winnipeg. They represented first places in the 1,000 meter time trials and sprint, the 4,000 meter individual race and the 10-mile scratch event.

In the two 1,000 meter events, Mr. Harvey defended the two gold medals he won in 1967 in the same championships.

Taking part in the 1968 event were the top 30 cyclists from throughout Canada, many of whom will compete in the Olympics later this year in Mexico.

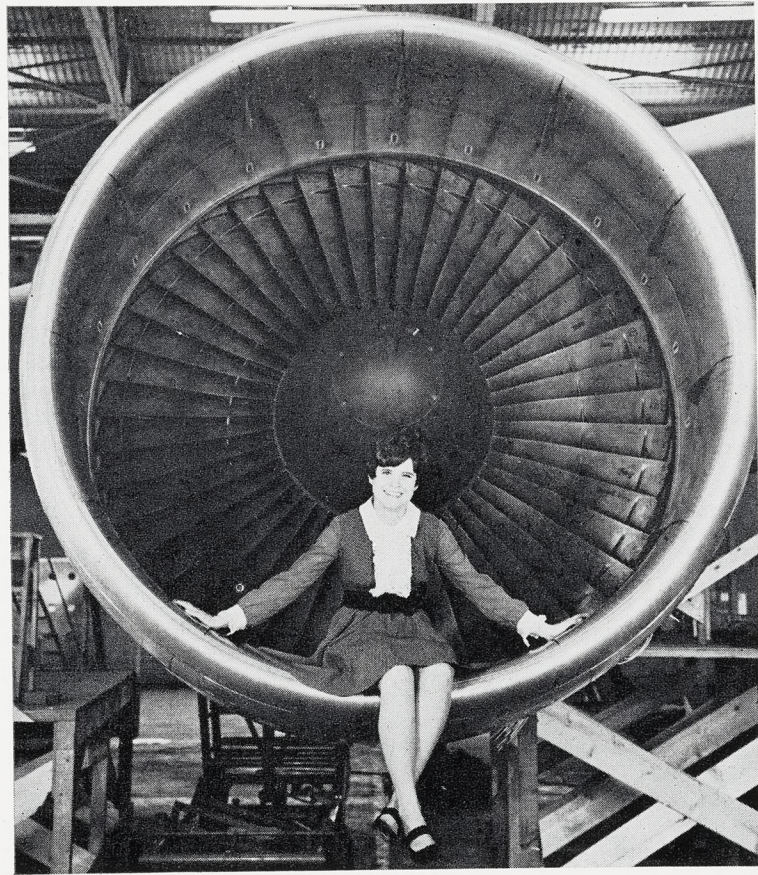
Mr. Harvey, assigned to the CF-5 Program at Norair as Canadair's manufacturing representative for almost two years, is now Canadair's procurement representative in California. His work includes coordination of CF-5 procurement in California.

While he is obviously a logical choice to represent Canada in the Olympics, Mr. Harvey will go to Mexico only as a coach-consultant to the American cycling team. Wherein lies an unusual situation.

Mr. Harvey is a British subject who entered Canada as an immigrant. He cannot, due to Olympic rules, represent either. Nor can he represent the United States.

From his sweeping victory in Winnipeg, Mr. Harvey garnered one consolation, along with all the gold medals. He can represent Canada in the November World Cycling Championship to be held in Uruguay.

Since the first of the year, Mr. Harvey has continued to make his mark in cycling competition in Southern California. He won the 1968 California Grand Prix at Encino and finished second in the Far West Championship in which the victor set a new American track speed record. He has also won three other major events on local tracks.



BIG PLANE, BIG POWER—Pert Sandy Brier of Pratt and Whitney Aircraft, has room to spare as she poses in the eight-foot diameter inlet section of one of the powerplants that will propel the Boeing 747 jetliner.



CHAMPIONSHIP FORM which helped Barry Harvey (right) sweep all four gold medals presented in the Canadian National Championship bicycle races is displayed above.



## WHAT DO YOU THINK?

## What Questions Would You Like To See Answered in This Column



Mr. Sizemore

## Wayne Sizemore, computer operator at Norair:

There is always the subject of the war in Vietnam which may be a little overworked. Another subject in the news is that new car dealers are now allowed to turn back the speedometers in the cars that they are selling. There is also a controversy over which is the more practical for state revenue, an increase in personal property tax or a sales tax.

## Arthur McKnight, designer at Norair:

Some more political questions since this is an election year and we are right in the midst of the elections. Things like what people think about the electoral college and the methods used to choose delegates to the conventions.



Mr. McKnight



Mr. Mothershead

## Ted Mothershead, master mechanic at Norair:

Questions like you have now. Current events are very good. These are the things that people live with every day. Questions on voting—this would be good. Different things on the campaign. Also, labor conditions, since people here are all interested in it.

## Vi Semonian, statistician at Norair:

What can be done about the smog is a good question. Also, ask them what they think about having a toll on the freeways, perhaps at the border, for visitors who are enjoying our freeways for free while we pay for them. They have toll turnpikes back east.



Mrs. Semonian



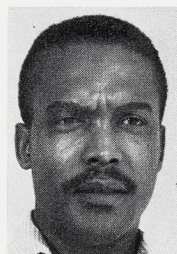
Mrs. Saxon

## Jeanne Saxon, Materiel requirements clerk, Nortronics Hawthorne:

I thought perhaps we could ask our Nortronics people how they felt about the colorful, but distracting, billboards which line our streets and highways. On Interstate highways and freeways where speed and safety are major factors, maybe too many billboards compete for our attention.

## Robert Stockmon, senior laboratory technician, Nortronics Hawthorne:

Do you think that car dealers should be allowed to disconnect the odometers on new cars before they are sold? That's the question I would like to see discussed by those of us who will be directly affected.



Mr. Stockmon

## COOL SAM COMES IN FROM THE HEAT

Sam is a Malemute shepherd who came in from the heat.



SAM AND SUE

He chose a hot afternoon to take refuge in the cool corridors at Nortronics Hawthorne. He just walked in. Guards summoned Ben Hallmark, Plant Protection specialist, when they could find no reason for authorizing Sam's admittance, heat or no heat.

Mr. Hallmark made several attempts to lead Sam out of the building. But cool Sam beat him back each time and eased over to lie at the feet of Sue Beckmann, Security secretary.

Finally, Sam's owner was located through the tags he wore and his master was summoned.

Security personnel tagged Sam with a visitor's badge and "mugged" him. As he was led away, back into the heat of the day, Sam gave one last longing look backward. Which gave those involved reason to wonder if they have really seen Sam for the last time.

## ADOPTED CHILDREN MAKE

## Spencer Home a Small United Nations

Five orphaned children of mixed nationalities have a home because George and Sara Spencer care.

Mr. Spencer is a field service technical representative, with six years of Nortronics service. He is assigned to the Polaris program at Anaheim. The five children have been adopted over the past nine years by Mr. and Mrs. Spencer, beginning in 1959 when they were stationed with the U.S. Navy in Honolulu.

If you were to visit the Spencer home in Placentia, you would be greeted by Janice, a 10-year-old Japanese girl whom the Spencers adopted when she was just six months old. Another daughter, Susan Moo Nyu, is seven years old and Korean, adopted along with another Korean boy, four-year-old Jon Choon.

Jon's best friend is brother David, another four-year-old, who is Chinese, adopted while Mr. Spencer was assigned by Nortronics to the Newport News Shipbuilding Company in 1964. Danny, their six-year-old American son also was adopted at Newport News.

The most recent additions to the Spencer home were Susan and Jon who just became official family members barely a month ago. Mr. Spencer chose them from 400 children at the Holt Memorial Orphanage in Il San,

Korea, last July 10. He then brought them to Guam for processing through the U.S. courts there.

"We aren't necessarily looking for more children to adopt," says Mr. Spencer, "but these past nine years have been the happiest of our lives, so I couldn't say for

sure. I'd have to check with Sara on that."

The key to their future plans may be the word "necessarily," because the Spencers weren't "necessarily" looking for any more children after Janice and Danny. That was six years and three children ago.



FIVE ADOPTED CHILDREN of Mr. and Mrs. George Spencer are, from left, David, 4; Susan Moo Nyu, 7; Janice, 10; Jon Choon, 4; and Danny, 6.

## BETTER EDUCATION SOUGHT

## Couple Aids in Birth Defects Fight

Michael is five years old. His appearance is that of the typical preschool youngster, but Michael is different.

He can't see. He can't hear. He has a severe heart disease and is mentally retarded.

Michael—the name, of course, is fictional—is one of many thousands of youngsters in the United States who have multiple handicaps because their mothers contracted German measles early in their pregnancy.

Because these handicaps are often so limiting in nature, and because the number of children born with such handicaps has been increasing, several Southern California area parents last year formed a group to see what can be done.

They call themselves the Rubella Parents of California (Rubella is the Latin term for measles), and their main goal is to increase their children's chances for an education.

One of these parents is Joseph Zagrobski, an air conditioning mechanic at Northrop Ventura since March. Mr. Zagrobski and his wife, Cynthia, have two children. Brian, born three months ago, is perfectly healthy. Nancy, born three and one-half years ago, has sight and hearing defects.

"These children need help," Mr. Zagrobski believes, "and the parents can't do it all. We meet every month, and we circulate a newsletter, all aimed at helping parents provide a better educa-

tion for their handicapped children."

The Rubella Parents were formed after a three-day meeting was held last year at the University of Southern California. Parents were told by officials of the John Tracy Clinic (essentially for hard-of-hearing children) that communication with the afflicted children is perhaps the most difficult block to overcome.

"It's been estimated," Mr. Zagrobski states, "that when a child is deaf, he loses 11 per cent of his ability to learn. It is also calculated that if a child is blind, he has lost 83 per cent of this ability."

"So, if a child is both deaf and blind, how do you reach him? That's what we want to know, and we need more teachers and more programs to help these children."

There are about 30 families who take an active part in the Rubella Parents. The mailing list for the group's newsletter—which Mr. Zagrobski edits—includes more than 400 parents and agencies throughout Southern California.

Their work is starting to bring results. Twenty Ventura County children will take part, starting this month, in a child development program, sponsored by the state and financed by federal funds.

One of these children is Nancy Zagrobski.

It is Mr. Zagrobski's belief that parental education must come first, if the children are to be helped.

"Parents who don't know what to do with a handicapped child

are going to 'overcare' for that child," he said. "They'll pamper him too much, and he won't be able to function in the outside world. Independence must be taught. Some of these children are bright, but how do you reach the child who can neither see nor hear you?"

It is generally not known that German measles can cause such a great variety of birth defects. In addition to blindness, deafness and heart disease, many are afflicted with deficiencies in their bone structure, nerves, intestinal tract and growth functions.

Often, the mother-to-be is not even certain she has had measles. Cynthia Zagrobski was ill one evening in the second month of pregnancy. A doctor was called, but the symptoms had subsided by the time he arrived.

"Eventually," Mr. Zagrobski said, "they'll have a shot of some sort which will prevent all measles. But now there are thousands of children like Nancy. Somewhere I heard the figure 20,000, but it could be more than that. We want something for them. We want an equal chance for education."

"To a parent of a child with limitations, he or she is first of all a child; second a boy or girl; and third, a handicapped child. If we can inform the right people, maybe we can help to open new opportunities for these children. We just began this year, so we're making up for lost time."

Anyone seeking additional information about the Rubella Parents of California may contact Mr. Zagrobski at 805-485-3938, or Robert Stapleford, the group's president, at 213-325-5161.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale

Chevrolet, 1965 Super Sport, 327 eng., p/s, p/b, fact. air, AM-FM transist. radio, stereo tape, \$2,200. 213-842-6958. A  
Falcon Ranchero, 1965, V-8, 289 eng., r/h, auto. trans., \$1,500. 213-322-0496. A  
Volkswagen, 1966 1300, \$1,350. 213-860-3450. A  
Pontiac, 1958, stereo, hydraulics, front & back, \$600. 213-596-8236. A  
Lincoln, 1966 Continental, 4-dr., \$3,595. 213-542-2378. A  
Corvair, 1964 Spyder, \$725. 213-644-2183. A  
Station Wagon, 1947 Willys, completely re-bilt., extra parts & eng., \$795. 213-837-9767. A  
Chevrolet, 1961, 283 eng., p/s, p/b, r/h, \$500. 213-327-2033. A  
Oldsmobile, 1957 4-dr., r/h, hydro., \$100. 213-429-5384. A  
El Camino, 1960 Chev., 348 cu. ins., \$700. 213-866-2033. A  
Volkswagen, 1965, \$1,150. 714-530-1237. A  
Chevrolet, 1963, 4-dr., auto., V-8, \$650. 213-320-3529. A  
Chevrolet, 1958 convt., \$100. 213-326-1409. A  
Chrysler, 1960 300F, full power, factory equipped, solid lifters, \$595. 213-370-4315. A  
Chevrolet, 1955 2-dr., 3-spd., \$150. 714-521-0416. A  
Chevelle, 1964 Malibu S.S., auto., V-8, \$1,200. 213-378-7651. A  
Ford, 1953 2-dr., V-8 eng., \$65. 213-370-2100. A  
Ambassador, 1966 Dpl. Tudor h/top, p/s, p/b, r/h, \$2,150. 213-542-3271. A  
Volkswagen, 1960, \$750. 213-326-6942. A  
Chevrolet, 1955 6-cyl. stick, \$150. 213-676-6893. A  
Dodge, 1955 Chrysler Hemi-head eng., \$125. 213-675-2735. A  
Mercedes Benz, 1956 190SL, \$825. 213-373-1395. A  
Falcon, 1962, 4-dr., r/h, stick shift, \$350. 213-676-7763. A  
Volvo, 1958, trans. & clutch o/hauled, \$350. 714-525-2516. A  
Ford, 1964 Galaxie 500, 4-dr., p/s, \$1,050. 213-644-1531. A  
Chevrolet, 1957 Bel Air, 2-dr., auto. trans., \$375. Box 1801. A  
MGB, 1963, \$1,350. 213-833-9696. A  
Volkswagen, 1964, w/1963 Porsche 1600S eng., many extras, \$1,800. 213-534-1974. A  
Chevrolet, 1960, 4-dr., auto., r/h, \$400. 213-363-5673. A  
Valiant, 1964, 4-dr., V-8, 4-spd., r/h, \$950. 213-921-3394. A  
Mercury, 1962 Monterey, 390 eng., r/h, p/s, p/b, a/c, auto., \$600. 213-672-7359. A  
Corvair, 1963, 3-spd. stick, Astros, r/h, \$450. 213-645-7715. A  
Dart, 1964 GT, 4-spd., radio, \$850. 213-372-5367. A  
TR-3, 1960, new seat, top, clutch, \$900. 213-377-8002. A  
Thunderbird, 1955, porthole top, \$895. 213-656-4097. A  
Mustang, 1967 GT, 390, 4-spd., a/c, discs, extras, \$2,795. 213-323-4257. A  
Austin Healey, 1960 Sprite, new top, tires, \$375. 213-641-1259. A  
Peugeot, 1959, new brakes, tires, \$200. 213-326-6195. A  
Chevelle, 1966, 427, 4-spd., extras, \$2,000. 213-329-5422. A  
Volkswagen, 1967 squareback, \$1,950. 213-596-9748. A  
Volkswagen, 1960, mag rear whls., \$500. 213-834-184. A  
Buick, 1963 Riviera, full power, a/c, stereo tape, \$1,300. 213-370-9170, 213-672-1868. A  
Cadillac, 1961 2-dr., a/c, full power, \$995. 213-377-3563. A  
Ford, 1961 4-dr., 6 cyl., \$150. 213-933-0989. A  
Ford, 1959 Galaxie, 332 eng., \$250. 213-675-8278. A  
Chevelle, 1966 SS 396, 4-spd., \$2,050. 213-671-9306. A  
Oldsmobile, 1967 Cutlass Supreme, 4-dr. h/top, p/s, p/b, a/c, r/h, auto. trans., \$2,500. 213-327-0883. A  
Pickup Truck, 1967 GMC, ¾-ton, V-6, Hydra., extras, \$2,100. 213-378-4959. A  
Ford, 1952, auto. trans., \$100. 213-377-4146.

Household Items For Sale

Desk, exec., walnut, w/attached typewriter stand, \$25. 213-537-3098. B  
Bed-Divan, dble., \$50. 213-321-6237. B  
Drapes, gold color, \$35. 213-679-6256. B  
Dining Room Set, mahogany, Duncan Phyfe, w/pads & 4 uphol. chairs, \$50. 213-377-5322. B

Household Items For Sale

Range, Wedgewood, gas, copper, 6 mos. old, \$100. 213-943-3108. B  
Stove, Wedgewood, 42", \$50. 213-639-5861. B  
Hutch, birch, \$150. 213-865-0301. B  
Range, gas, & refrigerator, apt-size, \$5 ea. or \$7.50. 213-370-5287. B  
Chairs, pr., green print, \$25. 213-776-1928. B  
Piano, upright, refinished antique Canterbury red, Kimball, \$400. 213-662-0429. B  
Silver Service, 10-pc., by Derby International, \$95. 213-378-2564. B  
Refrigerator, 2-dr. coppertone Frigidaire, lge. freezer on top, \$50. 213-325-6022, 213-325-2613. B  
Toaster, Sunbeam, radiant control, \$10. 213-430-7388. B  
Washer & Dryer, G.E. deluxe comb., elec., used 6 mos., \$100. 714-772-0713. B  
Washer, G.E., auto., \$15. 213-644-2607. B  
Stove, 4-burner, \$20. 213-755-7166. B  
Clothes Hamper, baby's, white wicker, \$4. 213-835-3869. B  
Table, chrome, formica top, 29½" high, 18" x 24", 2 drop leaves, \$10. 213-676-2661. B  
Hide-A-Bed, Simmons, dble. size, brown w/ blue slip cover, \$20. 213-324-2992. B  
Refrigerator, 1964 Frigidaire, white, \$95. 213-674-9627. B  
Dining Room Set, 5-pc., maple, drop leaf table, 4 Windsor chairs, \$165. 213-675-3957. B  
Dishwasher, G.E., portable, white, 1 yr. old, \$100. 213-645-5786. B

Miscellaneous For Sale

Hair Dryer, upright, professional style, \$10. 213-423-4837. C  
Pups, toy poodle, female, 6 wks. old, \$35. 714-528-9227. C  
Encyclopedias, Colliers, 10 vols., \$50. 213-430-2619. C  
Television, maple cabinet, Motorola, 24" screen, \$5. 714-879-7625. C  
Camera, Yashica 44LM reflex, f/3.5 lens, aux. wide angle & telephoto lens, extras, case, \$45. 213-532-7846. C  
Motorcycle, 250 Star BSA, \$395. 213-675-5695. C  
Pre-amplifier, Heath Kit, model WA-P2 & power amp. model W-5M, \$10. 213-372-7875. C  
Bicycle, girl's 24", \$10. 213-532-7717. C  
House, 4-bdrm., 2 baths, \$27,000. 213-320-6975. C  
Fall, 15", human hair, med. brown, \$50. 213-675-0860. C  
Swimming Pool, portable, 3' deep x 15' dia., w/ladder, \$75. 213-671-0560. C  
Receiver, Hallicrafters S40, service manual, \$45. 213-335-3229. C  
Horse, 8 yr. old gelding, experienced rider only, ½ Arabian & ½ quarter, \$400; w/tack \$550. 213-834-7535. C  
Gown, sleeveless, empire-style, mint green crepe, size 7 j.p., \$10. 213-755-7255. C  
Cabin Cruiser, 27' Tollycraft, twin engs., all extras, \$6,500. 805-482-6740. C  
Paint Spray Unit, ½ h.p. elec. motor, compressor, hose & gun, \$35. 213-677-7421. C  
Motorcycle, 500 cc Indian, \$350. 213-677-7758. C  
Motorcycle, 1967 Honda 305 Scrambler, \$500. 213-399-5804. C  
Mini-Bike, Taco 44, 3 h.p. eng., \$95. 213-291-0025. C  
Saxophone, Selmer Bundy E flat alto, \$225. 213-377-5853. C  
Plants & Trees, assorted, in tubs, also flower pots, \$2-\$15. 213-676-3651. C  
Bicycle, 24", girl's, \$15. 213-670-6084. C  
Camper, for 1964 Chev. ½-ton pickup, \$150. 213-379-2554. C  
Utility Trailer, 7' x 4½' x 5', spare tire, shocks, \$175. 213-635-4378. C  
Wig, brown, machine tied, 100% human hair, \$30. 213-676-9136. C  
Power Mower, 3 yrs. old, Sears 20" rotary, \$15. 213-377-4604. C  
Slip Lot, Salton Sea, roads & util. in, near yacht club, \$7,100. 714-535-1694. C  
Ski Boat, 16' in/bd., trailer, C.G. equipped, glassed mahogany hull, \$550. 213-545-5995. C  
Radio-Record Player, AM-FM, Packard Bell, maple, \$30. 213-692-6336. C  
Shopsmith, combination, table saw, drill press, disc sander & planer, ¾ h.p. motor, \$150. 213-377-3487. C  
Stereo Components, Fisher 75W receiver w/ cabinet, Garrard AT-60 changer w/base, Knight 3-way shelf, spkrs., \$200. 805-498-2572. C  
Preamp-Tuner unit, Harmon Kardon solid state, 2 yrs. old, \$150. 213-545-3128. C  
House, 2-bdrm., cpts., \$17,500. 213-671-8864. C  
Home, walking distance to schools, 3-bdrm., 2 baths, \$59,000. 213-377-2670. C  
Pups, weimaraner, born July 10, no papers, \$25. 213-757-7824. C  
Surfboard, Surfside, 9' 6", \$80. 213-596-7600. C  
Dog, German short-haired pointer, male, 10 mos. old, A.K.C., \$100. 213-431-7696. C  
Acreage, 5 acres in Antelope Valley, \$45 dn., \$45 mo., \$4,500. 213-378-1026. C  
Stove, 3-burner, butane, for trailer or camper, \$50. 213-372-4404. C  
Honda, 1965 Super Hawk, extras, \$350. 213-370-0250. C  
Typewriter, IBM elec., \$100. 213-327-1215. C

Miscellaneous For Sale

Luggage Rack, lge. custom built, \$25. 714-827-6813. C  
House, 3-bdrm., 2 baths, elec. bltins, cpts., dps., 3 yrs. old, will FHA, Hesperia Country Club membership avail., \$18,500. 714-244-9283. C  
House, 2,000 sq. ft., 5-bdrm., 2-story, 2 f/places, cpts., dps., f.a. heat, bltins, dble. car gar. w/laundry rm., b/wall fence, 12x22 covered patio, Garden Grove, G.I. at 5¼%, \$35,500. 213-644-6270. C  
Boat, 13½' runabout, 44 h.p. Mercury outbd., trailer, many extras, \$750. 213-476-1649. C  
Shoe Skates, white, size 8, \$5. 213-345-3195. C  
Ski Boat, 14', trailer, 35 h.p. Evinrude w/ elec. starter, \$550. 213-675-6482. C  
Twin Motorcycle, 1966, 350 cc, model 361 Jawa, many extras, \$275. 213-756-4837. C  
Spinning Reel, J. C. Higgins, model 535-42110, holds 450 yds., 12 lb. line, \$18. 213-375-6467. C  
Boat, 16', fiberglass shell, trailer, 1961 22 h.p. Scott-Atwater outbd. motor, all access., \$300. 213-329-9464, 213-324-9796. C  
Honda, 1965 250 Scrambler, \$300. 213-944-1202. C  
Gun Cabinet, for 7 guns, \$30. 213-378-3055. C  
TV, 14" portable, UHF converter & floor stand, \$12.50. 213-672-5649. C  
Surfboard, 9' 3", 3 stringers, orange & red tint, \$80. 213-370-1749. C  
Honda, 1964, 160 cc, \$250. 213-532-7017. C  
Camping Trailer, Shasta, sleeps 4, butane stove, \$630. 213-675-1776. C  
Boat, 14', 45 h.p. Mercury motor, trailer & skis, \$450. 213-532-6497. C  
Turntable, Rek-O-Kut L-34 w/S-160 tone arm & new AE 108 stereo cartridge, \$45. 213-374-6056. C  
Transmission, for 1952-'53 Chev., rebilt. Powerglide, \$25. 213-676-4489. C  
Uniform & Tights, size 12, Hawthorne Jr. majorette, green corduroy & boots, white, size 6½, \$10. 213-323-2883. C  
Dog, springer spaniel, champ. sire & back-ground, 7½ yrs. old, \$50. 213-831-6567. C  
Motorcycle, 1965 Harley Davidson, FLH 74 electra glide, \$1,395. 213-323-6366. C  
Surfboard, 9' 7", Roberts, \$55. 213-675-6081. C  
Cemetery Lots, Terrace of Faith, Rose Hills, \$200 ea. 213-867-0662. C  
Movie Camera, 8 mm Yashica, 3-lens turret incl. 6.5 mm wide angle, 10 mm normal & 25 mm telephoto, \$30. 213-324-5135. C  
Camping Equipment, lge. Cronco cooler, Igloo water cooler, 3 gal., & metal table, 24" x 60", \$33. 213-384-4017. C  
Motorcycle, BSA 650 cc Lightning Rocket, 1966, many extras, \$850. 714-637-3195. C  
Luggage, Skyway, charcoal, size 26" x 20" x 8½", \$20. 213-324-6702. C  
Home, 5-bdrm., 2 baths, 3-car gar., patio, sprinklers, dps., a/c, near Northrop Ventura, \$38,000. 213-889-8075. C  
Golf Bag, black, 2 yrs. old, \$7. 213-679-5731. C  
Fishing Rod, spin-cast, 5-pc., quick taper, w/padded leather case, \$12. 213-326-5731. C  
Rifle, Winchester M-70 30-06 w/scope, \$150. 213-672-8518. C  
House, 4-bdrm., fam. rm., 2 baths, near Northrop Ventura, cpts., dps., f.a. heat, f/ place, covered patio, b/wall, landscaped, \$24,950. 805-498-3508. C  
Triplex, cpts., dps., bltins, lge. owner's unit, open beams, f/ place, \$45,000. 714-776-2845. C  
Chalet, 2-bdrm., cpts., dps., stone f/ place, bltins, 2 baths, Running Springs vicinity, \$23,250. 805-644-3481. C  
House, 5-bdrm., 2½ baths, cpts., dps., 20 min. from Nortronics Anaheim, FHA appraisal \$27,400, FHA loan avail., \$27,000. 714-531-5987. C  
Trailer, 16', 1961 Dalton, butane refrig., stove, electrical hookups, \$675. 213-679-8525. C  
Trailer, 15', 1955 Shasta, sleeps 6, elec. brakes, oven & range, ice box, \$695. 714-892-4358. C  
TV, b&w, 18" screen, UHF/VHF, \$45. 213-676-6661. C  
House, 3-bdrm., lge. det. gar., encl. summerhouse, N. Inglewood, 2nd t.d., \$18,500. 213-677-6204. C  
House, 2-bdrm., completely redecorated, near shopping & schools, 10% dn., consider lease, \$24,950. 213-474-0110. C  
Trailer, 14', sleeps 4, Little Dipper, \$700. 213-834-8081. C  
House, 3-bdrm., patio, bltins, dps., near P.V. schools, 2-car gar., \$26,500. Box 1802. C  
Piano Accordion, pro. 120 bass Concerto, case, \$200. 213-675-7719. C  
Tires, 2 Royal Tiger Paw, wide, recaps, 7:00-13:00 ¾ tread, \$10 ea. 213-644-6464. C  
Land Camera, Polaroid, auto., model 220, elec. eye exposure, b&w or color, carrying case, \$75. Box 1803. C  
Motorcycle, 1962 Zundapp 250 dirt bike, \$150. 714-539-2098. C  
Depth Mike, O-3, Starrett, case, \$10. 213-326-5299. C  
Engine & trans., for 1961 Falcon, needs rings, auto. trans., \$50. Box 1804. C  
Home Unit, Muntz, complete, AR 300, \$225. 213-780-8921. C  
Gown, size 12, peacock blue, floor length, sleeveless empire style w/matching evening coat, \$15. Box 1805. C

Miscellaneous For Sale

Accordion, Italian made, 120 bass, 7 keyboard shifts, 2 bass shifts, \$150. 213-326-1856. C  
Pups, Australian silky terriers, male, 5 wks. old, AKC reg., \$150. 805-482-1756. C  
Home, 3-bdrm., 1¾ baths, f/place, new cpts., block wall, sprinklers, 2-car gar., screened-in patio, 5 min. to Norair, \$27,900. 213-327-8289. C  
Wig, dk. auburn, European hair, \$75. 213-674-2736. C  
Pistol, P-38 German tankers', w/ammo, holster & shoulder strap, \$85. 213-377-8898. C  
Bicycle, girl's 26" Monarch, \$25. 213-758-9182. C  
Whirlpool Bath, Turbojet, late model, \$100. 213-328-0887. C  
Oil Painting, 24x36, blue & white theme in blue & gold frame, \$35. 213-371-9925. C  
Hi-Fi, Magnavox, \$75, other items, various prices. 213-329-7182. C  
Boat Mold, female, incl. top deck, \$300. 213-679-7840. C  
Motorcycle, 1960 Triumph, 650 cc, new tires, \$500. 213-678-8032. C  
Acreage, 2½ acres in Lancaster, \$1,300 dn., \$50 mo., 6% interest, \$4,990. 213-375-7130. C  
Sail, Spars, & complete rigging, approx. 90 sq. ft. of dacron sail, alum. spars & s.s. fittings, \$150. 213-831-9545. C  
Speaker Cabinet, bass reflex 22"x21"x16", \$12.50. 213-675-0788. C  
House, 3-bdrm., fam. rm., 1¾ baths, fenced yd., det. gar., bltins., 10% dn., \$28,500. 213-323-4116. C

Wanted to Buy

Catamaran, up to 18', reasonable. 714-497-1422. D  
Easel, artist's studio type. 714-772-1975. D  
Typewriter, recent vintage. 213-390-2958. D  
Filter Unit for 18' Doughboy pool, reasonable. 714-635-3315. D  
Dishwasher, portable. 213-326-2590. D  
Weightlifting Equipment, barbells, dumb bells, weight-plates, in any combination or condition. 213-434-1427, 213-423-1510. D  
Corvair Monza, 1965, 2-dr., auto. Box 1806. D

For Trade

Sweep Generator, Eico, & marker for FM & TV, in kit form, trade for C.B. equipment. 213-434-8205. E  
Green Stamp Books, 4, trade for 4 Blue Stamp books. 213-671-8401. E

Free (To Be Given Away)

Auto Parts for 1934 Chev. 5-window cpe. 213-429-1114. F  
Windows, steel casement, approx. 2' x 4', 2 ea. 3' x 6', swing out sect. 213-328-1520. F  
Pups, half thoroughbred Sheltie toy collie, 8 wks. old. 213-378-1486. F

Rentals Offered

Townhouse, 4-bdrm., 2½ baths, 2-story, cpts., bltins, screened lanai, pool, children & pets o.k., lease or lease w/option to buy, \$250 mo. 714-635-1686. G  
Cabin, Lake Arrowhead Woods Est., sleeps 8, \$25 day; \$150 wk. 213-472-6438. G  
House, 4-bdrm., 2 baths, stove & refrig., 2-car gar., children & pets O.K., \$165. 714-847-8140, 213-860-5288. G  
Cabin, Green Valley, \$25 w/end; \$45 wk. 213-324-0649. G  
House, 3-bdrm., fam. rm., 1½ baths, dble. gar., fenced yd., cpts., dps., f/place, within walking dist. of Norair, avail. Sept. 20, \$200 mo. 213-676-6390. G  
Apt, 2-bdrm., unfurn., singles, preferably bachelors, close to beach, \$160 mo. 213-372-1410. G

Rides and Riders

Rides Wanted

7 a.m. — 3:42 p.m.  
La Brea & Centinela vicinity, Inglewood. Jerry St. John, Norair ext. 2632, 213-672-4749.

7:30 a.m. — 4:15 p.m.

From Santa Monica area. P. D. Mihailidis, Mariposa ext. 4025, 213-399-6945.

Midnight — 7 a.m.

From Santa Monica area. V. A. Kostantinidis, Norair ext. 2200, 213-399-6945.

Rides Offered

Midnight — 7 a.m.

From Santa Monica area. V. A. Kostantinidis, Norair ext. 2200, 213-399-6945.

8 a.m. — 4:45 p.m.

Orange County Airport to Hawthorne. Sheldon O. Bresin, Norair ext. 4863, 714-532-1510.

Rentals Offered

Apt, 2-bdrm., over gar., no pets or children, gar. not incl., \$95. 213-328-2932. G

Rentals Wanted

House or duplex, 1 or 2-bdrm., fenced rear yd., must allow pets. 213-864-7560. H  
House, 2-bdrm. & den, Hawthorne area. 213-675-2590. H

Child Care

Child Care wanted, mature woman to care for 3 children, 1 pre-school age, at our home, 5 days wk., 8 a.m.-4 p.m., \$40 wk., must have own car. 213-293-5993. I  
Babysitting offered, fenced yd., 10 min. from Norair. 213-542-2795. I

Personals

Baseball Pitchers wanted between 18-24 yrs. old for semi-pro league, for tryouts. 213-834-1592. L  
Rent or buy concrete mixer. 213-375-3756. L  
Ironing in my home, \$1 hr. 213-379-2156. L  
Teacher at Hawthorne High School needs ride to & from work, either 7:30 a.m. or 8 a.m. shift, from Palos Verdes Ests. 375-5545.  
Ironing, in my home, by piece. 371-3079. L

For Sale or Trade

TV, Radio-Phono. Comb., \$30 or trade for used clothes dryer, gas or elec. 213-644-1952. M  
T-Bird, 1960, w/sunroof, \$300 or trade for motorcycle of equal value, prefer dirt bike. 213-679-8035. M  
Ford, 1965 Galaxie 500, r/h, p/s, \$1,650 or will take a trade & balance in cash. 213-833-2626. M  
Mustang, 1966 2+2, 4-spd., V-8, \$1,800 or trade for Volkswagen, 1968 or '67 fastback. 213-377-7670. M  
Tempest 4, 1963, \$500 or trade for sports car of equal value. 213-696-9438. M

Gun Club Slates  
September Matches

Gun Club members will meet next week to compete in both 22-caliber rimfire and center fire matches.

Competition begins at 7 p.m. September 19 at the Los Angeles Gun Club, 1513 Beryl Street, Redondo Beach. Practice begins at 6:30, club officials said.

Additional information may be obtained by contacting Commissioner Mark Burnett on ext. 1597.



PERFORMANCE AWARD — Andrew J. Shoemaker (right), Defense Contract Audit Agency auditor assigned to Northrop Norair, receives an award for having demonstrated excellence in his work for the past fiscal year. Presenting the award is Harold D. Parsons, Defense Contract Audit Agency resident auditor for Northrop Corporation.



## Manual and Guide Issued To Ventura Secretaries

More than 100 Northrop Ventura secretaries last week received copies of the division's first Correspondence Manual and Secretary's Guide.

The manual, prepared by Robert Jenks of Management Systems and Organization, contains 32 listings, including sections on such topics as mailing instructions, general correspondence, security, government correspondence, abbreviations, office supplies and interoffice correspondence.

"This manual and guide," Mr.

Jenks said, "is being published to assure that we follow uniform practices and preferences in preparing letters, wires and related materials at Northrop Ventura."

"The appearance of a letter expresses the company's 'personality,' and should always be a credit to the secretary, her management and the division itself."

Aiding Mr. Jenks in the compilation of the book were Barbara Fuller, Pat Boies, Peggy Miller, Joanna Moran, Mac Pakula, Doug Sessions, Carlo Mortellaro and Val Meredith.



**CORRESPONDENCE MANUAL**—Claudia Beaumont receives a copy of Northrop Ventura's first Correspondence Manual and Secretary's Guide from Robert Jenks of Management Systems and Organization. The guides have been distributed to secretaries.

## Deadline Nears For Night School Enrollment

Time is slipping away from employees who had planned to enroll in adult school this semester to work toward a high school diploma.

That's the word of caution from Chuck Borst, administrator of Professional Development and Training.

"Classes began on Monday," Mr. Borst said, "and registration will only extend until late this week or early next week. It doesn't take long to come to our office and look through the schedules the schools have sent us."

Adult school education is offered at Oxnard, Newbury Park, Thousand Oaks and Simi High Schools. Credits are applicable toward graduation. There is no tuition cost.

Mr. Borst's office is on the first floor of the Administration Building, or he may be contacted on ext. 1180.

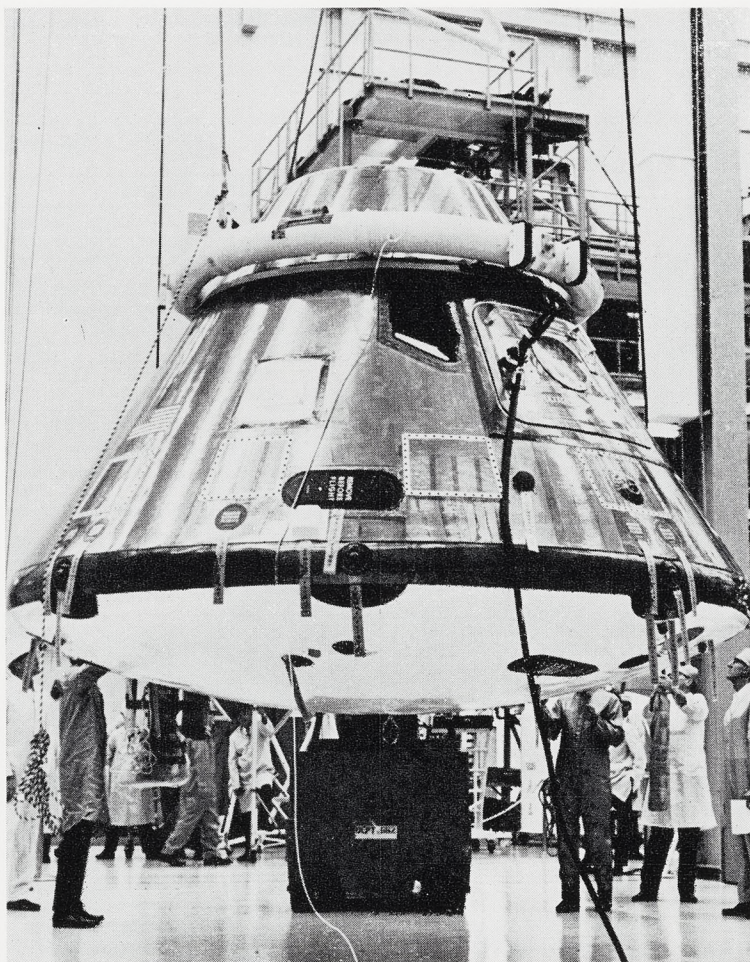
## PARAWING

(Continued from page 1)

knots. Deployment was at 5,000 feet, with gliding flight achieved at approximately 3,700 feet. Post-test inspection at the impact site revealed no damage, either to the Parawing or the test vehicle.

The first 18 flights—nine each with the single-keel and the twin-keel versions—will test only deployment characteristics and uncontrolled gliding performance at various altitudes and under different deployment conditions. Following this, radio-controlled flights will begin.

NASA's Langley Research Center is managing the program.



**BOUND FOR SPACE**—This is NASA's first Apollo spacecraft, which will enter into earth orbit next month, commanded by three astronauts. The spacecraft, powered by a Saturn 1B launch vehicle, will return to earth under the three-parachute Northrop Ventura-built Apollo Earth Landing System.

## SECRETARIES PLAN FASHION SHOW

"Midsummer Night's Dream," a fashion show, will be presented next week by the Los Robles Chapter of the National Secretaries Association.

The program will be held at 6:30 p.m. September 19 at the Westlake Inn in Thousand Oaks. Styles for work, social events and leisure time will be shown. Reser-

ventions may be made by contacting Jeannine Childers on ext. 294. Tickets are \$6.50, and an estimated attendance of 150 to 200 is expected.

Tammy Tracy of Northrop Ventura is president of the Los Robles Chapter.

The group held its first fashion show in 1966.



**APOGEE CLUB MEMBERS**—Seven of 25 members of the new Apogee Club display their certificates of membership, signifying achievement on the Apollo Program. They are (seated, from left) Ralph Burkman, William Keating

and Ed Kepka, and (standing, from left) Glen Estes, Gary Porter, J. J. Lenarsic and Santiago Colunga. Standing at right is John Evans, director of Experimental Fabrication and a member of the Apogee Club Committee.

## THIRTY DAYS TO GO

# NASA Starts Countdown for Apollo 7

The scheduled target date for the first manned flight of the Apollo spacecraft is only 30 days away.

Lt. General Samuel Phillips, Apollo Program director for the National Aeronautics and Space Administration's Office of Manned Spacecraft Center, has designated October 12 as liftoff date for Apollo 7.

The spacecraft has been transferred to NASA's Kennedy Space Center, and systems tests are under way on the craft. It has been mated to the Saturn 1B launch vehicle which will power it into earth orbit.

Crewmen will be Walter M. Schirra, jr., spacecraft commander; Donn Eisele, command module pilot; and Walter Cunningham, lunar module pilot.

Northrop Ventura has designed and built the Earth Landing System for Apollo, as for the earlier Mercury and Gemini programs.

Apollo 7 will be an 11-day mission, demonstrating performance of the spacecraft's command and service modules, the crew, and support facilities.

Crew members will separate the Apollo from the launch vehicle's second stage, and will perform a transposition and docking maneuver similar to one which will be performed on the moon.

For the first time, the action of

the astronauts will be visible on earth, through live television coverage. A portable camera, no larger than most transistorized radios, will be placed on board.

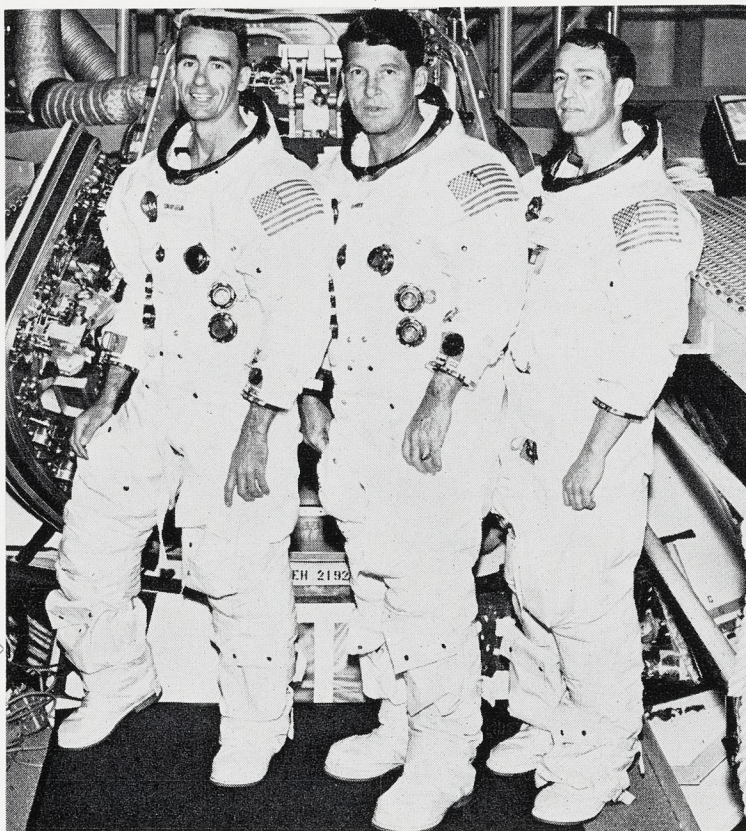
Astronaut Schirra, incidentally, will be the first American to participate in three space missions.

## SPARKS TO HEAD NEW SECTION

Warren Sparks, a Northrop employee for 23 years, has joined Northrop Ventura as director of the newly created Production Control section.

Mr. Sparks, who had been at Norair, was appointed by M. A. Maurer, vice president and manager of Production Operations.

Production Control will be responsible for manufacturing order writing, releases, shop load, dispatch, expediting, work-in-process stores, blueprint control, tool control and accountability, and tool cribs.



**FIRST APOLLO CREW**—Scheduled to fly the Apollo 7 spacecraft next month are (from left) NASA Astronauts Walter Cunningham, Walter M. Schirra, jr., and Donn Eisele. The Apollo spacecraft has been transferred to the launch pad at Cape Kennedy, in preparation for the flight, tentatively scheduled for October 12.



# NORTHROP NEWS

NORTHROP VENTURA

Published biweekly by Northrop Corporation, Beverly Hills, California

Vol. 26, No. 19

September 25, 1968

## Flannigan Attending Harvard

Thomas E. Flannigan, Northrop Ventura vice president and manager of Marketing, is participating in the Harvard University Graduate School of Business Administration's Advanced Management Program.

The 13-week course began on September 8 and will continue until December 6. In Mr. Flannigan's absence, Robert Bowditch, who is the director of Marketing Planning, will serve as acting manager of the Marketing department.

Mr. Flannigan is one of more than 150 business executives and government officials to participate in the 54th session of the Harvard program. More than 6,000 persons have been graduated from the program, which Harvard states is the oldest and largest resident management development program in the nation. It was begun in 1943.



Mr. Flannigan



Mr. Bowditch

## Political Parties, Candidates Seek Help As Election Nears

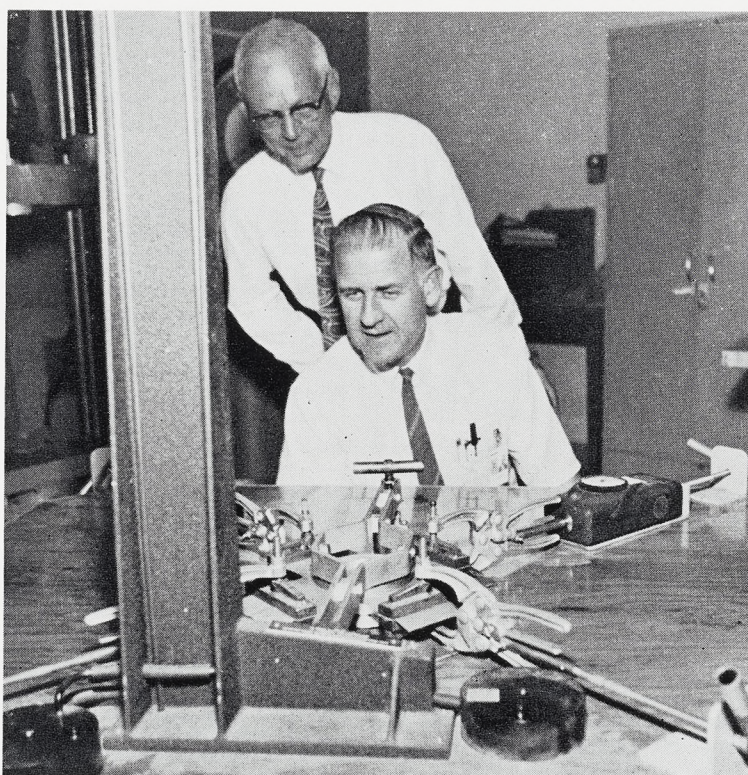
**HELP WANTED. Men and women. Age not a requirement, work with public. Hours open. Must like to work with people and have an interest in the future of America. No pay, but great satisfaction derived from working for your beliefs.**

Although the above want ad may not appear in your daily newspaper, the time has come when the leaders of American political parties seek all the help they can get in the final push to the November elections.

Whether or not you have ever taken an active part in political action, your party and your favorite candidates need help of two specific kinds: (1) financial and (2) labor to help get out the vote.

Most of us may feel that the limited time and money we have to give would make little difference in the outcome of any election, yet the opposite is true. A few dollars might finance the bumper stickers or radio time that would make the difference between victory and defeat for a candidate. A few hours on the telephone might convince a dozen or more of your acquaintances that your candidate is the right man for the job.

As one of a number of major corporations participating in California's Good Citizen-



*BEFORE THE AIAA—Dr. R. V. Lashbrook (standing) and C. M. Mabry of Northrop Ventura's Materials Engineering branch, examine equipment used in the testing of materials for the Ventura-built Parawing. Both men spoke this week before a meeting of the American Institute of Aeronautics and Astronautics' Deceleration Systems conference held in El Centro.*

## Treated Nylon Fabric Holds Special Promise

A heat-treated and polyurethane-coated nylon fabric is the best material evaluated to date for the first spacecraft landing

system which will have the capability of being controlled in the earth's atmosphere to pinpoint landings on land or water.

This development in the National Aeronautics and Space Administration's Parawing Program was discussed this week at the American Institute of Aeronautics and Astronautics' Deceleration Systems Conference, held Monday through today in El Centro.

Discussing the Parawing materials were two Northrop Ventura researchers.

The effect of heat-calendering and coating is to reduce the porosity of the nylon to a level near zero. This very low porosity is a goal of the program to obtain a high rate of horizontal glide as the parawing descends.

In contrast, the Earth Landing System for Project Apollo—which was also developed by Northrop Ventura — was fabricated of normal parachute materials of much higher porosity in line with the ballistic nature of Apollo spacecraft landings.

Evaluation of many different materials is continuing, according to Dr. R. V. Lashbrook and C. M. Mabry of Northrop Ventura's Materials Engineering branch, and it is not yet assured that the same fabric which is being used in intermediate-scale parawings will be used in full-scale parawings.

Intermediate-scale parawing systems are being aerial tested at the Department of Defense Parachute Test Facility in El Centro. A full-scale parawing, large enough to land an Apollo-sized spacecraft, will be designed by Northrop following evaluation of data from the current series of tests. The intermediate-scale system (See FABRIC, page 6)

## Aerodynamic Deceleration Discipline 'Coming of Age'

The second DOD-AIAA conference on aerodynamic deceleration systems came to a close today at El Centro amid frequent comments of departing participants that the scientific discipline of aerodynamic deceleration was coming of age.

Only the second conference to be held since deceleration systems was established as a separate committee by the American Institute of Aeronautics and Astronautics, nearly 400 engineers, scientists and teachers from five countries attended the three-day meeting. The first conference was held two years ago in Houston.

Co-sponsor this year with the AIAA was the DOD Joint Parachute Test Facility, where technical sessions were conducted. Highlighting this year's event was the first open house of new facilities constructed by the Department of Defense at a new parachute test range.

The \$2.5 million improvement is used in the solution of aerodynamic deceleration problems for all military services, NASA and industry. Parachute landing systems for the Mercury, Gemini and Apollo space programs—which were developed by Northrop Ventura—were qualified at the Joint Parachute Test Facility (JPTF) Range with the exception of the last Apollo qualification tests, which were conducted on the new range.

Development tests of the NASA parawing are being conducted on the new range by Northrop Ventura.

Forty technical papers were presented on subjects ranging from historical development of parachute to advanced planetary landing systems. Representing Ventura were Theo Knacke, who spoke on the systems approach to developing the Apollo Earth Landing System, Dr. R. V. Lashbrook and Mac Mabry, who described new techniques in evaluat-

ing fabrics for the NASA parawing, and David Gold, who spoke on early development of the manually operated, free-fall parachute.

Featured speakers were Alfred Eggers, NASA; Alan Pope, Sandia Laboratory; and Major William J. Knight, USAF, an X-15 pilot.

## Larrabee, Hill Management Club Guest Speakers

William Larrabee, retired Northrop vice president of Industrial Relations, and Dan Hill, administrator of Retirement Plans and Savings Plans, will address the Northrop Ventura Management Club next week.

The October 1 meeting will begin with a 5:30 p.m. social hour at the Los Robles Inn in Thousand Oaks. Dinner will be served at 6:30.

Mr. Larrabee, who retired recently, is a consultant to Northrop on Industrial Relations.

Reservations may be made by contacting Lupe Zuniga on ext. 392, Nancy Smith on ext. 1436.



Mr. Larrabee



Mr. Hill

## Haflinger, Ashenfelder Head Service Pin List

Two men with 40 years of service to Northrop combined, head this month's list of service pin recipients at Northrop Ventura.

In addition to 20-year men Eugene Haflinger and Warren Ashenfelder, two employees received 15-year pins in September; three earned 10-year pins; and four became eligible for five-year service awards.

Mr. Haflinger, who joined the company on September 13, 1948, is an accountant in Cost Accounting and Reports. He has been with Ventura his entire tenure with Northrop.

Mr. Ashenfelder, who began working with Northrop on September 29, 1948, transferred to Ventura last April. He is a senior engineer in Human Engineering, Maintainability and Training.

Fifteen-year pin recipients were Lester Hyatt and Augie Quenon. Ten-year pin winners were James Archibald, George Hensley and Milo Thomas. Those employees receiving five-year pins were

Leonard Estes, Peggy Heacock, John Morrison and Warren Sneed.

## THREE EMPLOYEES TOUR WITH CHOIR

Three Northrop Ventura employees — members of a 50-voice choral group — returned this month from a ten-day tour of Texas, Oklahoma, New Mexico and Arizona.

Materials Engineer Darryl Triepke, Technical Analyst Lilly Wong and Photographic Coordinator Carol Chamberlain are members of the Eleanor Daries Choraleers of Oxnard, which appear throughout Los Angeles, Ventura and Santa Barbara Counties, and had made two previous out-of-state tours.

The group made several appearances in and around San Antonio, Texas, site of the "HemisFair" celebration.

En route, the group performed at two veterans' hospitals, and at shopping centers and restaurants.



## NORTHROP NEWSMAKERS

**Wayne Stevens**, Norair, has received an "Outstanding Service to Scouting" award from the Culver-Palms Cub Scout Pack 49 at the group's annual Blue and Gold Banquet.

Mr. Stevens put together an interesting presentation covering Norair's work on F5/T-38 and 747 Programs for the youngsters. **Floyd Parker**, Norair, is assistant cubmaster for Pack 49.

**Air Force Airman Brian E. Swartz**, the son of **Harry Swartz**, Norair, and **Mrs. Swartz**, has attained Honor Student status in the Electronic Principles Department of the Air Training Command's 3380 Technical School, Keesler AFB, Mississippi.

**Colonel Norman A. Kriehn**, USAF, chief of the department, notified Mr. Swartz that his son's standing is achieved by less than one per cent of all students in attendance at the school.

**Walter H. Gapik**, Nortronics, has been installed as grand knight of the Knights of Columbus, Pomona Council 877. Mr. Gapik was deputy grand knight last year and for three years was president of the Kaycee Club.

Eleven-year old **Donald Bordelon**, grandson of **John Pawlicki**, Norair, recently beached a 4-pound, 12-ounce corbina at Torrance Beach. Young Don dis-



played some of the talents taught him by his grandfather, NRC commissioner of the Northrop Surf Fishing Club for the past 13 years.

**Charles W. Eyres**, Norair, will act as vice chairman of the 1968 National Aeronautic and Space Engineering and Manufacturing meeting in Los Angeles, October 7 through 11.

The Society of Automotive Engineers will sponsor the symposium at the Statler Hilton hotel.

Also at the conference, major problems facing air terminal users will be the subject of a presentation by **Winfield H. Arata, jr.**, Northrop specialist in air logistics. Mr. Arata's paper on "Overall Air Terminal Logistics" will highlight six items that must be considered as part of a total systems approach: passengers, baggage, cargo, mail, utilities and supplies.

**Lloyd Balsam**, Nortronics, has attended a week-long American Management Association course in Fundamentals of Program and Project Management for which he served as co-chairman.

The course was designed for those who are assigned to a project team as manager or members of a project management staff.

**Arlene Sloan**, Nortronics secretary at NASA's Ames Research Center, won a series of honors at the Eighth Annual Sports Car Olympics held over the Labor Day weekend at Squaw Valley.

Miss Sloan teamed with **Jack Grimes** to win first in class in the Rallye to the Valley, second in the Variety Rallye and fifth in the Time and Distance Rallye. In individual standings her Toyota was judged second in the Concours class; third in the Sports Car Quiz, third in the Autocross I and fourth in Autocross II. Teaming with **Peta Weseman** as navigator, she took first in class in the Funkhana and had the top time of the day.

**Dr. Oskar Doehler**, one of the world's foremost electron tube scientists, has joined Warnecke Electron Tubes, Inc. as chief scientist.

Warnecke is affiliated with The Hallicrafters Company, a Northrop subsidiary.

**Rosemary Hussey**, assistant editor-business manager of Northrop News, handles many unusual requests. Most can be accomplished routinely, but some, like a recent request from England, takes a little special effort.

**S/Sgt. E. C. Goldbach**, USAF, instituted it. Besides some nice words about the News, he wrote that he and his superior are Californians who will be rotating stateside soon and are in the market for acreage on which to build homes. He singled out four classified advertisements in the News that interested them and asked for more information.

Since the News does not reveal the names of its advertisers, Mrs. Hussey had to take an alternate course. She contacted those who placed the ads, suggesting they get in touch with Sergeant Goldbach direct.

**M. A. "Cy" Seeley**, Nortronics, has returned to Anaheim from a trip to the United Kingdom to participate as a member of the Capability Evaluation Review Team which certified the United Kingdom's Type C, MK 6 and MK 7, MITRE capability of the repair and calibration facility in Faslane, Scotland.

## Big Savings Are Now Available On Hallicrafters Products

With Christmas only three months away, The Hallicrafters Company has initiated a special offer of its products to Northrop employees at savings up to 60 per cent off retail.

The discounts became effective on September 1, and will remain in effect through December 24.

Hallicrafters, a Northrop subsidiary, manufactures quality products in amateur, shortwave, high fidelity and standard broadcast radio, as well as two-way communications equipment, direction-finding radios and related items.

Among the items offered for employee discount are clock radios, shortwave and FM radios, and an AM-FM multiplex shortwave stereo receiver with more than 50 watts of peak power.

The AM-FM multiplex shortwave stereo receiver, the CR-

Northrop's support of higher education now covers a broad range of activities from student scholarships to direct financial aid to universities and colleges.

For these purposes, Northrop is currently disbursing some \$145,000 annually, and over the past five years has expended a total of nearly \$600,000. The funds are distributed through contracts with six universities under the Industrial Affiliates program and in the form of grants under the Aid to Higher Education program. (These programs have no connection with Northrop's Educational Refund Plan, under which Northrop employees are reimbursed for the costs of taking university courses.)

### Administration

To administer these programs, a University Relations Advisory Board was established five years ago by President Thomas V. Jones.

The board is chaired by Richard E. Horner, senior vice president-Technical. Members of the board are Dave Badger, member of Technical Management, Norair; Stan Church, Corporate director of Technical Planning and executive secretary of the board; George Grogan, vice president and manager of Engineering, Ventura; Lee Hausman, executive advisor, Nortronics; Dr. Donald Hicks, vice president of Corporate Research and manager, Northrop Corporate Laboratories; and Frank Smith, Corporate director of Industrial Relations.

From its support of higher education, Northrop receives the benefits of advanced research from some of the top universities in the land, and helps to discover and nurture the country's future leaders.

### Scholarships

Northrop awards college scholarships to sons and daughters of Northrop employees. To receive these awards, they must qualify as finalists in the National Merit Scholarship program. In the last 10 years, Northrop has sponsored 47 scholars at colleges and universities of their choosing. The 35 currently receiving aid are attending classes at each level from freshman to senior. The financial assistance varies from \$1,000 to \$6,000 per student for the four years of college, depending on the student's financial need.

The merit scholarship program

### IN MANY WAYS

## Northrop Supports Higher Education

includes sponsoring a leading Negro high school graduate each year. Currently, two such achievement scholars are attending Yale and Cornell Universities under Northrop sponsorship.

### Close Ties

Perhaps less well known is Northrop's Industrial Affiliates relationship with six major universities. The universities are Massachusetts Institute of Technology, Case Western Reserve University, California Institute of Technology, Princeton University, Stanford University and the University of Southern California. In return for the funds allocated to these schools, Northrop has access to research results, technical papers and library reference material, representation of technical conferences, faculty contacts at all levels and the opportunity to initiate new research programs or become involved in other ones of special interest to the company.

The Aid to Higher Education

program, in addition to awarding the National Merit Scholarships, grants funds to support research of special interest to Northrop. For example, Northrop recently made a \$22,000 grant to USC for acquisition of an electron beam floating zone refiner, which is a specialized type of furnace used for the purification and growth of crystals.

The Aid to Higher Education program also supports educational institutions in communities where Northrop has facilities. Recipients of these grants include Northrop Institute of Technology; California Lutheran College, Thousand Oaks; the University of Alabama, Alabama A. & M. and Oakwood College, the latter three institutions located in the Huntsville, Alabama area, where Northrop is involved in support of NASA's Marshall Space Flight Center; and 12 schools comprising the independent colleges of Southern California.



*EQUIPMENT GRANT of \$22,000 is represented in Northrop check being presented by Dr. Donald Hicks (right center) to Dr. Zohrab Kaprielian of USC. Looking on are D. M. Badger (right) of Norair and Dr. William Spitzer of USC. Grant, typical of Northrop's support of higher education, was for purchase of an electron beam floating refiner.*

## Pershing's Flip Chart Easel Becomes a World Traveler

Harold Pershing's idea has been all over the world with Northrop employees. In addition, it is in evidence in hundreds of offices throughout the corporation.

Mr. Pershing's idea, a portable flip chart easel, has also been licensed for manufacture and sale by the Converted Products Company of Encino, California.

The flip chart easel has large steel rings, much like a binder notebook, which allow charts to be easily replaced. A special case accommodates two charts for travel compactness.

The easel may be used in three ways. It can be placed on a desk or table; it can be attached to a tripod for standing presentations; or it can be mounted on a wall.

Gus Meuleman, Norair Manufacturing Research and Development, designed the wall mounting

and redesigned the original rings on the easel for Mr. Pershing, a long-time Norair Graphics employee.

## Hawaiian Tour Reservations Being Accepted

Reservations are now being accepted at all Northrop personnel Activities offices for the annual NRC-sponsored yearend Hawaiian holiday.

An organization meeting for those interested will be held at 7:30 p.m. September 26 at the Alondra Club on Prairie Avenue, Lawndale.

Two tours are available. An eight-day excursion departs December 25 and returns January 1. Total cost: \$330 per person. For those who can apply vacation time, a special 12-day tour is also available, departing December 21 and returning January 1. The cost: \$385 per person.

Both tours will feature travel aboard Pan American Airways.

**IS IT NEWS?**  
**Ext. 4273**  
**HAWTHORNE**





MONDAY WILL BE ROLLOUT DAY FOR THE FIRST BOEING 747 JETLINER

## WITH 747 ROLLOUT

# New Era of Commercial Air Transportation Nears

A new era in commercial air transportation moves one step nearer reality next week when The Boeing Company rolls out its first 747 jetliner.

Following rollout, scheduled for September 30, the initial 747 will go into preparation for its maiden flight, planned for December 17.

The largest commercial jet airplane ever constructed in the United States, the 747 is a giant among transports by any yardstick.

It has a wingspan of 195 feet, length 231 feet, and the vertical tail section towers 63 feet, approximately five stories, above the ground. The main passenger deck

is 20 feet wide and 190 feet long, and will have various seating arrangements to accommodate from 350 to 493 passengers. It has a gross weight of 710,000 pounds. A cargo version will have a 100-ton capacity. A flight crew of three or four, plus 16 stewardesses, will serve each flight.

Its four jet engines, each capable of developing 43,500 pounds of thrust, will rocket the 747 along at cruising speeds of 625 miles per hour, nine-tenths the speed of sound. The 747 has a range of over 6,000 miles and a service ceiling of 45,000 feet.

Northrop Corporation plays a major role in the 747 Program.

It is responsible for the design and manufacture of the 153-foot-long main passenger compartment (at Norair), the 80-foot-long fiberglass wing fairings (at Ventura), fuselage stringers (at Nortronics-Anaheim) and the majority of flooring for the passenger and cargo compartments (at Northrop Architectural Systems, Inc.).

Northrop Norair produced the assembly fixtures and master molds for its own 747 manufacturing tooling requirements as well as all major fixtures for Boeing's final assembly fuselage work. Included were 40 huge all-aluminum fixtures, some up to 100 feet long and three stories high. Including small hand tooling, Norair has had to equip itself with more than 25,000 tools to produce the passenger compartment for the 747.

The estimated weight of raw materials required to produce Northrop's work for each 747 is approximately 122,000 pounds. More than 9,000 square feet of sheet aluminum, equivalent to the floorspace of five ample sized homes, is used to cover each set of fuselage components for the 747.

Northrop Ventura's unique 747 wing fairings consist of variable-thickness plastic honeycomb cores sandwiched in glass fiber, with molten-spray aluminum coating bonded to the exterior side of all

sections. It results in a reinforced fiberglass structure that is probably one of the largest of its kind ever produced and represents a major advancement in the application of plastics to aircraft.

At Nortronics Anaheim many Northrop innovations have been introduced in the production of aircraft stringers which have resulted in considerable savings in production cost and weight.

Each set of 747 fuselage components contains 800 stringers that would stretch three and one-half miles, laid end to end. They are roll tapered, mass jogged, yoder-rolled and stretch-formed by a variety of entirely new methods.

Lightweight, yet rugged, titanium and aluminum flooring for the 747 is produced by Northrop Architectural Systems. The comparatively thin (.005 to .010

inches) titanium and heavier (.016 to .010) aluminum sheets are bonded to the top and bottom surfaces of fire-resistant polyvinyl chloride foam material. The resulting 0.4-inch-thick strong resilient panels, ranging in size up to 4 feet by 12 feet square, are delivered to Boeing as ready-to-install interchangeable panels.

Northrop Corporation and The Boeing Company have enjoyed a close working relationship since World War II when Northrop produced assemblies for the Boeing B-17 bomber. Since then, Northrop has performed work on Boeing's KC-135 tanker aircraft and tooling for the Boeing 727 commercial jetliner. In addition, Northrop has manufactured outer wing panels and aft fuselage sections for Boeing's 707 jetliners continuously for the past 14 years in a program that is still in progress.



TRAINING FLIGHT—Major Bashir Muskashbir, commander of the Royal Libyan Air Force (left), and Lt. Colonel A. G. Schneider, USAF, chief of training for the RLAF, prepare for a flight in a Northrop F-5B. Note markings on fuselage. Libya is among latest allied nation to receive Northrop F-5 tactical fighters.

## LIBYAN AIR FORCE MARKS BIRTHDAY

"Royal Libyan Air Force Day" has marked the fifth anniversary of the founding of the Kingdom of Libya's air arm.

One of the features of this observance was a flyby of aircraft by the RLAF, including the supersonic Northrop F-5 tactical fighter. Libya is among the latest of the Free World nations to receive F-5's as part of its defense force.

Libyan Prime Minister Abdulhamid Bakkoush and Minister of Defense Hamed Abeidi led high-ranking officials at the ceremonies marking the anniversary. Major

General Rollen Anthis, commander of the USAF's 17th Air Force and Colonel Edward Cutler, 7272nd Flying Training Wing, led representatives of the USAF taking part.

The RLAF now flies C-47 transports, T-33 trainers and the Northrop F-5, its supersonic punch. Pilots and maintenance personnel from the RLAF attended training at Williams AFB, Arizona, to prepare them for the utilization of the F-5.

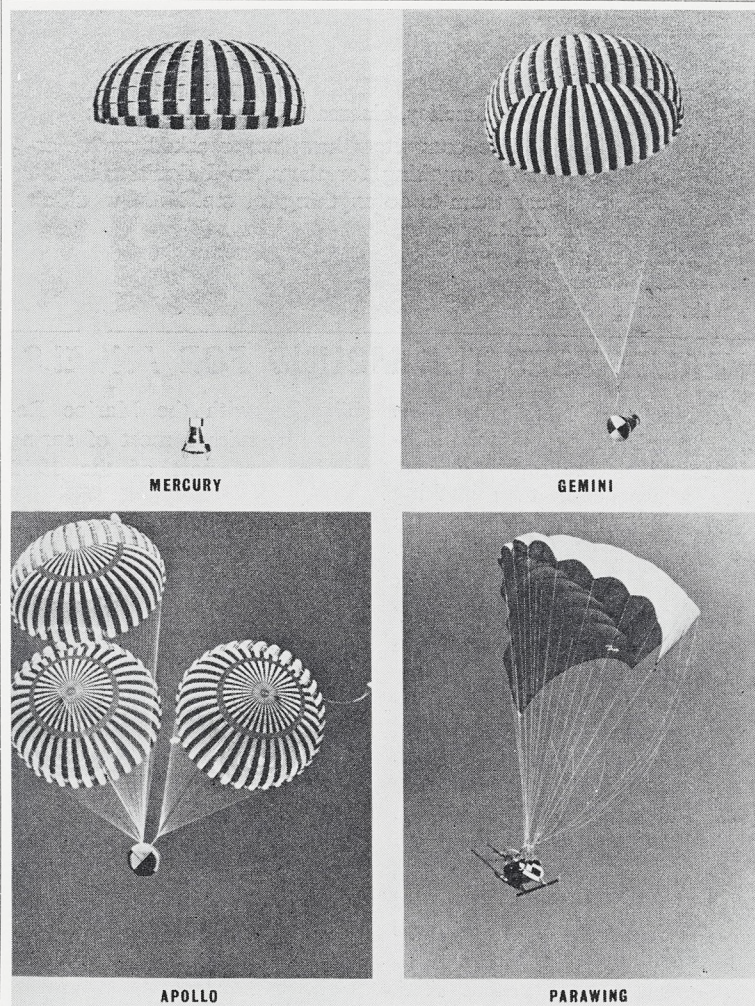
Don Kindy is the Northrop technical representative with the RLAF.

## All-Northrop Luau Set For Famed 'Tikis'

All the lush tropical grandeur of the famed "The Tikis" jungle compound in Monterey Park is being readied for an all-Northrop Luau set for October 5, 7 p.m. to 1 a.m.

Tickets, now available at all Northrop Personnel Activities outlets, sell for \$6 per person. They are good for admission, an evening of entertainment and dancing to four different bands, unlimited use of the many features that include a banana train ride, an erupting volcano, special island hostesses, a scrumptuous island feast, and many special acts and performances.

Dinner will be served from 7 to 10 p.m. Only those 21 years of age or older will be admitted.



PARACHUTE TECHNOLOGY—From Mercury to the Parawing, all of these National Aeronautics and Space Administration landing systems have been manufactured by Northrop Ventura. The triple-parachuted Apollo Earth Landing System is scheduled to get its first manned test during October. Parawing testing continues on weekly basis at Navy facilities in El Centro.



## WHAT DO YOU THINK?

Would You Date An Individual  
Selected For You by a Computer

## Kathy Card, clerk at Norair Santa Fe:

Definitely not. A computer can do little more than match people with the same likes and dislikes. So you meet and what's new? There is nothing really different, no surprises. I like to meet new people, but prefer to do it my way.



Miss Card



## O. J. "Skip" Neidhardt, Polaris programmer at Anaheim:

No, I wouldn't. I don't believe that the questions upon which the computer's findings are based are relevant to a desirable dating relationship. I believe in choosing someone on the basis of personality and physical being as well as on their likes and dislikes.

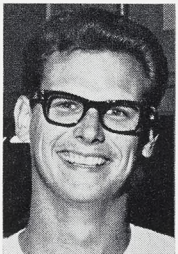
Mr. Neidhardt

## Lupe Zuniga, secretary at Ventura:

No. That's totally unromantic. It's unfeeling. It's cold. It's impersonal. I certainly don't believe in that at all.



Miss Zuniga



Mr. Hester

## Cary Hester, aircraft mechanic at Norair:

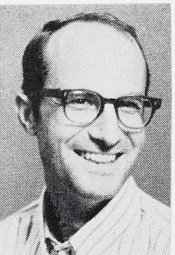
Why not? I think it might be fun. We are living in a changing world. Variety is a part of it. I am ready to go along with it. Put me down as approving, but give me a little advance notice as to when this is all happening.



Miss Nofziger

## Jill Nofziger, control clerk at Anaheim:

Yes. I think the results would be interesting. However, I wouldn't seek out the services of a computer. Still, it would be fun to see what an unemotional machine could come up with.



Mr. Smalley

## Tom Smalley, cinematographer at Ventura:

The computers have never asked me to arrange anything for them, so I don't think I'll ask them to do anything for me. No. I wouldn't do it.

## KEALEY TOES THE MOUND FOR ANGELS

A Northrop Norair son has had the unusual experience of being called to the major leagues over a weekend, then making mound appearances on both Tuesday and Wednesday nights.

He is Steve Kealey, son of Jane Kealey of the Upholstery group of Paint and Process at Norair.

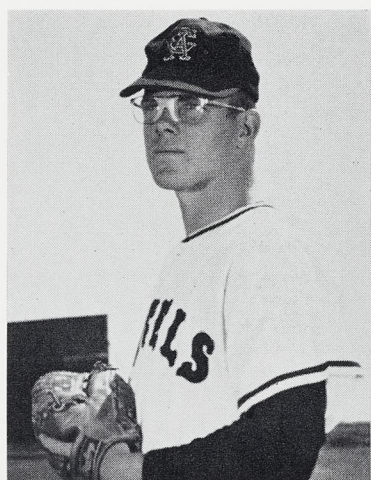
Young Kealey, of the California Angels, had just completed a regular season pitching for the Texas League champion El Paso ball club when he received the call to report to Anaheim.

He arrived September 8 and on September 11 and 12 pitched as a relief pitcher against the league-leading Detroit Tigers.

A product of Torrance High School, Steve pitched for Idaho Falls of the Pioneer League in 1966, advanced to Davenport of the Midwest League in 1967 and worked this season for El Paso, a Class AA team. Because of his

obligation with the Marine Reserves, he missed most of spring training and part of the 1968 season.

Specializing in relief pitching, Steve had a 6-2 win-loss record and a 2.40 earned run average at El Paso.



STEVE KEALEY

## AN EXCHANGE STUDENT

## Meyer Family Host to German Youth

Ralf Dost is a senior at Westchester High School. He swims, skis and plays folk songs on his guitar.

Sounds like a typical teenager. Right?

Wrong. Ralf Dost also speaks fluent German, French and has studied Russian, and plans a career in politics or public service when he graduates from college.

It's not surprising that his Ger-

man is fluent, because Ralf Dost, an American Field Service foreign exchange student, is a resident of Eickhorst, West Germany.

Between now and next June or July, he'll be living with Mr. and Mrs. James Meyer of Westchester, and their 17-year-old son, Bruce.

Jim Meyer, a 10-year-man at Northrop Norair, is a member of the Boeing 747 Materials and Process Engineering group.

Even though the school year began only last week, the Meyer family has been thinking about the American Field Service (AFS) for several years.

"Bruce met an exchange student from Switzerland last year," Mrs. Meyer said, "and we became friends with the boy."

"When he went back to Europe in July, he recommended us to AFS as a home for a foreign student. Then we were asked if we could take Ralf. He arrived on August 12."

The Meyer family has kept its new guest occupied. Shortly after his arrival, they went on vacation, touring Oregon, Washington, British Columbia and Alberta.

Mrs. Meyer said the family hopes to take Ralf to Yosemite National Park next Easter, when he and Bruce will have a week of vacation from school. Bruce is also a senior at Westchester.

Because of his fluency in English, which is required in Germany, Ralf is able to attend regular classes.

A year in a foreign country obviously gives a person new insight. This is what Ralf hopes will help prepare him for a career in public life or journalism.

"This is a wonderful experience for all of us," Mrs. Meyer said.



AMERICAN VISITOR—Ralf Dost (right), an American Field Service foreign exchange student from Germany, talks with his host in the United States, James Meyer of Westchester, a 10-year Northrop man, and 17-year-old Bruce Meyer. Bruce and Ralf are seniors at Westchester High School.

Calm Mr. Creekbaum Comes  
To Life on Race Tracks

George Creekbaum is a champion race car driver.

In two-and-one-half years and some 50 starts in drag strip racing, he has only lost twice.

The period of George's racing career coincides with his employment as a Reproduction operator at Anaheim. He's been doing both since 1966. But his quiet, easy manner would never reveal that he recently established a new quarter-mile track record for speed and elapsed time in his "stock automatic" class 1959 Dodge — 85.56 miles per hour in 16.40 seconds.

Before and since he has collected a long string of victories in weekly and National Hot Rod Association (NHRA) point meets. Some of these wins have brought trophies and certificates, and about 40 have brought cash prizes of from \$30 to \$100. They also have brought George recognition from professionals such as Ramon Lowe, NHRA national record holder, and the fans who attend the weekly events at Orange County International Raceway.

Elsewhere, George has won races at Fontana, Irwindale, Carlsbad, the Pomona Fairgrounds and at the Lions Drag Strip in Long Beach.

In the brief period that he has been racing, George has owned nine cars, most of which have seen weekend action. He's had a '67 Fiat, '59 Dodge, '59 Ford, '59 Studebaker, '57 Pontiac, three '55 Chevys and a '40 Ford pickup. He still owns one of the Chevys and the pickup.

George's most interesting — and amusing — experience came one Sunday when he was all set to race and suddenly found him-

self without a car. At the last minute he commandeered his wife's '55 Chevy as she was on the way to the market. He made it back to the track just in time to win \$30 for first place in his bracket. And he was able to return with the car and the money for his wife to do the marketing.

George longs for the day when he can drive his own rail car "down the quarter-mile asphalt track at 240 miles an hour in something like 6.5 or 6.7 seconds, or faster."

But, for now, George is seeking a sponsor for future races. He'd like the opportunity to prove his ability to an owner or dealer interested in having their car raced by a champion.

RUZIECKI BOYS  
TOP LINKSMEN

Two sons of a Northrop employee have scored impressive golf tournament victories. John Ruziecki, a machinist at Norair, is the proud father of these rising links stars.

John, 17, has won the area Junior Chamber of Commerce tournament at Alondra Park which qualified him for a place in the State J.C. tournament in Victorville, where he placed fourth.

Jim, 14, has won the second flight of the Los Coyotes Lee Hammil tournament, "the biggest junior golf tourney in the world." His scores were 83, 77 and 77.

New NRC Ballroom  
Dance Class Opens

Featuring beginning eastern swing and the rumba, a series of NRC dancing instructions are being held at the VFW Hall, 4563 West 131st Street, Hawthorne.



GEORGE CREEKBAUM WITH RACING AWARDS



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale	
Buick, 1967 Riviera, a/c, 2-dr., full power, \$4,000. 213-394-0034, 213-399-2092.	A
Dodge, 1964 Dart GT, 4-spd., radio, \$850. 213-372-5367.	A
Jeepster, 1949 Willys, r/h, rebilt. eng. & trans., \$450. Box 1901.	A
Corvair, 1963 Monza, 4-spd., \$375. 213-370-7749.	A
Volkswagen, 1960 w/'63 eng., new tires, \$600. 213-374-3044.	A
Volkswagen, 1963 sedan, r/h, 2 new tires, \$800. 714-635-0229.	A
Pickup, 1960 F-100 Ford, V-8, w/camper, \$800. 213-631-6933.	A
Pickup, 1964 Chev. ¾ ton, w/camper, hvy. duty springs, special tires, \$1,950. 213-838-1926.	A
T-Bird, 1963, full power, fact. air, \$1,100. 805-495-0507.	A
Volkswagen, 1966, 2-dr., lug. rack, \$1,325. Box 1902.	A
Mustang, 1965, 6-cyl., 200 cu. in., p/s, p/b, r/h, auto. trans., \$1,495. 213-477-7741.	A
Station Wagon, 1959 Dodge, 9-pass., p/s, p/w, \$195. 213-831-6583.	A
Chevrolet, 1957 2-dr., 6-cyl. std. shift, r/h, \$425. 213-325-4580.	A
Rambler, 1963 770 Classic, V-8, stick shift, with o/drive, p/s, r/h, \$800. 213-542-2098.	A
Ford, 1934 coupe, 5-window, \$525. 213-836-0068.	A
Chevelle, 1966 S.S., 396 eng., 4-spd., a/c, p/w, \$2,150. 213-324-8747.	A
Station Wagon, 1956 Chevrolet, needs paint, \$100. 213-370-4643.	A
Mustang, 1967 convt., V-8, auto. trans., p/s, p/disc brakes, \$2,100. 213-377-9666.	A
Buick, 1963 Skylark, V-8, p/s, \$995. 213-830-6163.	A
Chevrolet, 1961 Bel Air, r/h, air, auto., p/s, \$550. 213-674-6409.	A
Buick, 1967 Skylark, 2-dr. h/top, a/c, r/h, p/s, \$3,000. 213-567-5261.	A
Station Wagon, 1965 Pontiac Bonneville, hvy. duty suspension, a/c, p/w, p/s, p/b, rack, \$2,050. 213-361-1097.	A
Mercury, 1961 Mont., 2-dr. h/top, air, power, \$495. 714-646-1543.	A
Scout International, 1964, all-wheel dr., hubs, \$1,200. 714-633-3788.	A
Chevrolet, 1959 bus. coupe, new tires, \$150. 213-596-2920.	A
MGTD, 1953, new top & tires, \$1,000. 714-774-1137.	A
Corvette, 1962, 4-spd., fuel injection, posi., \$1,375. 213-329-2538.	A
Station Wagon, 1958 Plymouth, full power, radio, \$200. 213-292-4958.	A
Station Wagon, 1952 Jeep, 4-wheel dr., r/h, \$595. 213-363-5205.	A
Mustang, 1965, V-8, 289, r/h, 4-spd., lge. tires, \$1,599. 213-428-6075.	A
Ford, 1960 Sunliner, \$225. 213-370-6752.	A
Model A, 1929, \$200. 213-326-1409.	A
BMW 1600, 1968, AM-FM radio, radial ply tires, \$2,500. 213-772-5752.	A
Volkswagen, 1956 sedan, \$200. 213-673-3724, 213-675-3948.	A
Chrysler, 1963, 4-dr., p/s, p/b, r/h, \$750. 213-378-4541.	A
Falcon, 1962, 2-dr., r/h, stick shift, \$450. 213-328-3306.	A
Station Wagon, 1965 Ambassador Deluxe 990, sports shift, \$1,900. 805-498-2795.	A
Pickup Truck, 1957 Ford, 8' bed, rebilt., with or without Globe cabover camper, \$1,100. 213-830-4265.	A
Studebaker, 1961 Lark VII, 2-dr., auto., \$250. 213-675-4380.	A
Pickup Truck, 1966 Ford F-100, ½-ton, auto. trans., many extras, \$1,450. 714-494-6940.	A
Chevrolet, 1967 Impala, V-8, auto. trans., p/s, p/b, fact. air, \$2,275. 714-638-2025.	A
Corvair, 1963 Monza, r/h, auto. trans., \$750. 213-375-4635.	A
Chevrolet, 1957 Nomad, 283 w/quad. stock, \$1,000. 213-382-2260.	A
Household Items For Sale	
Bedspreads, 2 twin, \$5 ea. 714-879-7625.	B
Light Fixtures, 3 hanging type, \$40. 213-378-3055.	B
Dutch Door, 2 pcs., 32" w., w/latching & access. hardware, \$23. 213-293-5993.	B
Bar, portable, 4 ft. long, storage shelves, glass-covered top, \$15. 213-671-0560.	B
Couch, green, approx. 7', \$19.50. 213-679-6256.	B
Dining Room Set, blonde, Duncan Phyfe, ext. table, uphol. chairs, china cabinet, \$180. 213-375-1395.	B
Box Springs, 2, twin, foam mattresses, metal frames, bedspreads, matching curtains, \$50. 213-676-5000.	B
Sofa, 9' grey, \$45. 213-474-1780.	B
Household Items For Sale	
Dining Suite, French provincial, 6 leather chairs, pad, \$150. 805-498-2839.	B
Couch & chair, rattan, other matching items, \$100. 213-376-8250.	B
Sewing Machine, White, cabinet, \$45. 213-752-6379.	B
Dinette Set, 42" table w/leaf & 4 chairs, \$45. 213-675-1953.	B
Osterizer, deluxe, \$35. 213-754-4510.	B
Dryer, G.E., elec., \$50. 213-675-5230.	B
Bed, dble., box spring, mattress & stand, \$50. 213-672-0879.	B
Refrigerator, Hotpoint, 12 cu. ft., \$100. 213-370-7600.	B
Clothes Hamper, baby's, white wicker, \$4. 213-835-3869.	B
Dresser, walnut, stain-proof top, 6 drwrs., matching mirror, \$30. 213-346-3751.	B
Refrigerator-Freezer Combination, deluxe, \$200, other items, various prices. 213-421-9986.	B
Couch, light color, 7', curved, \$35. 213-377-5322.	B
Beds, 2 folding-type, 39" wide, \$7 ea. 213-329-9484.	B
Mattresses & box springs, twin size, \$40 set. 213-323-8213.	B
Stove, O'Keefe & Merritt, 4-burner, center grill, \$25. 213-323-4288.	B
Dishwasher, G.E. portable, white, 1 yr. old, \$100. 213-645-5786.	B
Hide-A-Bed, Simmons, dble. size, brown w/ blue slip cover, \$25. 213-324-2992.	B
Miscellaneous For Sale	
Shotgun, Nikko, 12 ga. o/u, 28" mod., full ventilated rib, \$200. 213-532-7846.	C
Ski Boat, 14', trailer, 35 h.p. Evinrude w/ elec. starter, \$550. 213-675-6482.	C
Boat, 19' 1965 Glastron V195, Mercruiser 150, sleeps 4, tandem trailer w/power winch, \$3,600. 213-323-6366.	C
Motorcycle, 1966 Suzuki, 250 cc X6 Hustler, \$425. 213-532-7017.	C
Bicycle, girl's 26", \$10. 213-430-1388.	C
Lapidary Equipment, bench type tumbler on stand, rock cutter, arbor & discs, \$125. 213-327-1797.	C
Band Saw, 3-whl., drill press, 1" & 6" belt sanders, stands w/motors, \$200. 213-941-1865.	C
Motorcycle, Indian, 500 cc single, bored, \$350. 213-532-7849.	C
Auto Parts, Chevrolet, set of 283 powerpack heads, 4-bbl. intake manifold, AFB carb., other items, \$50. 213-371-4560.	C
Honda, 1966 CB 160, new tires, \$250. 213-675-6660.	C
Camera, 35 mm Zeiss Ikon Contina, 1:3.5, f/45 mm self-timer w/flash attach., \$25. 213-327-4267.	C
Boat, 14' runabout, plywood & fiberglass, trailer, \$200. 213-968-2345.	C
Radio, Realtone AM-FM/MLPX receiver, incl. spkrs., \$50. 213-287-6413.	C
Honda, 1966 Scrambler 305, \$275. 213-675-7932.	C
Home, 2-story, corner lot, 4-bdrm., 2 baths, fam. rm., cpts., dps., f/place, patios, 3-car gar., \$3,500 equity, \$31,950. 714-827-1958.	C
Tire, 5.60x15, for Volkswagen, \$5. 213-370-7904.	C
Boat, 14' Traveler, 1965 Comet model, 40 h.p. Evinrude, elec. starter, trailer, \$750. 805-498-2465.	C
Bouncing Horse, child's, \$12. 213-644-6372.	C
Typewriter, std. IBM, elite type, \$300. 213-427-0674.	C
Sailboat, 28' sloop, sleeps 4, inbd. eng., main, jib, genoa & spinnaker, \$5,000. 213-378-4352.	C
House, 3-bdrm., 2 baths, cpts., dps., bltins, patio, close to Del Amo shopping center, \$27,950. 213-325-3724.	C
Lot, 50' x 170', lifetime membership in Lake Elizabeth Ranch Club, o/looks golf course, \$2,500. 805-252-2468.	C
Organ, elec., w/bench, Conn Minuet, \$1,000. 213-679-5087.	C
Ski Boat, 14', 30 h.p. Merc, trailer, ski, \$500. 213-324-1284.	C
Aquarium Pump, Silent Giant & auto. fish feeder, \$12. 213-372-1632.	C
Travel Trailer, 1959 Flamingo, 19', self-contained, \$1,500. 213-377-1008.	C
Sailboat, 30' Windjammer cruising cutter, 4½-ton, glass o/plywood, outbd., sleeps 4, many extras, \$8,500. 213-374-4257.	C
Motorcycle, 1967 Honda, 90 cc, w/side bags, other extras, \$250. 213-324-3331.	C
Motorcycle Carrier, bumper mounted, \$13. 213-670-4166.	C
Accordion, black, 120 bass Castle, semi-pro. size, case, \$200. 213-324-6770.	C
Lot, Green Valley Lake area, 60' x 275', paved road, lake share incl., \$3,500. 213-833-4191.	C
Car Top Carrier, \$5. 213-679-8525.	C
Walker, w/seat, Everest & Jennings, \$60. 213-324-1908.	C
House, 3-bdrm., 2 baths, fam. rm., sep. living rm., 2 f/places, 2-car gar., Hollyglen area, \$46,900. 213-679-8687.	C
Cemetery Lots, 4, Ocean View sect., Green Hills Memorial Park, incl. perpetual endowment care, \$2,260. 213-326-3135.	C
Condominium Home, 2-bdrm. & den, rec. facilities, adult community, pets o.k., \$28,500. 213-326-1331.	C
House, 4-bdrm., 1½ baths, family rm., bltins, cpts., dps., f/place, covered patio, dble. gar., 5 yrs. old, near El Camino, \$39,500. 213-329-0086.	C
Miscellaneous For Sale	
Motorcycle, 1964 Yamaha, 250 cc, \$300. 213-644-2618.	C
House, Palos Verdes Pen., 4-bdrm., 2 baths, 8 yrs. old, 5¼% financing, \$38,000. 213-676-5425.	C
Snare Drum, Gretsch, 8 lugs, case & stand, \$50. 213-325-3452.	C
House, 2-bdrm., den, heated pool, 45' x 150' lot, cpts., dps., near Northrop, \$27,500. 213-679-4778.	C
Golf Clubs, balls & bag, \$40. 213-826-3061.	C
Chain Saw, David Bradley, 20" swing, extras, \$100. 213-676-4915.	C
House, 3-bdrm., 2 baths, fam. rm., 18' x 38' pool, Palos Verdes Pen., \$44,500. 213-377-6029.	C
Heater, dble. wall Gaffers & Sattler, 2 yrs. old, 35,000 b.t.u., \$30. 213-644-3116.	C
Motorcycle, 1967 Yamaha, 100 cc, G.Y.T. installed, many extras, \$300. 213-644-3007.	C
Dog Kennel, suitable for air travel, lge., \$10. 714-529-4788.	C
Ham Gear, Swan 400 w/a.c. pwr. supply & 2 matched finals, \$400. 213-645-1274.	C
Poodle, male, min., apricot, obedience winner, AKC reg., \$50. 418-253-4266.	C
Mini Bike, Taco, \$65. 213-425-8366.	C
Stereo, portable, walnut, all transistor AM-FM, 2 yrs. old, \$70. 213-327-2447.	C
Sailboat, 15' Glastron, 98 sq. ft. of sail, 2-place racer, trailer, \$500. 213-982-0716.	C
Sailboat, 14' Super Satellite, many extras, w/trailer, \$750. 805-483-5644.	C
Lot, ½ acre, in Joshua Tree, all utilities avail., \$3,500. 714-531-3840.	C
Trumpet, Olds Ambassador, \$98. 213-645-0945.	C
Typewriter, Royal Quiet-Deluxe, portable, w/ table, \$25. 213-870-1550.	C
Rifle, 7 mm Remington magnum model 700 ADL, approx. 60 rounds fired, \$115. 213-391-5591.	C
Shotgun, Sears, Ted Williams, model 27, 12 ga., ventilated rib, adj. choke, \$83. 213-676-1985.	C
Typewriter, 12-point IBM Exec., 16" carriage, reconditioned, \$220. 213-639-3825.	C
Patio Table, redwood, & benches, \$10. 213-324-4817.	C
Skis, Kneissl Riesen slalom, 210 cm. & Marker bindings, \$25. 213-363-2113.	C
Fall, long, dk. brown, human hair, \$35. 213-329-3593.	C
Horse, chestnut mare, sound, \$400. 213-377-2782.	C
Bicycle, girl's 20", front basket, \$15. 213-679-6334.	C
Tape Player, stereo, 8-track, Bendix Sapphire VIII, AM radio, dash mount, 1967-68 VW, \$80. 213-635-2602.	C
TV, 21" Admiral console, color, 3 yrs. old, \$150. 714-835-6772.	C
House, on 2.3 acres, master planned apt., in Agoura, \$67,500. 213-783-8271.	C
Golf Clubs, Spalding, Henry Ransom, 1 & 3 woods, 3-9 irons, putter, \$30. 213-370-6734.	C
Camping Trailer, Scotsman, 3-burner stove, 25-lb. butane ice box, sleeps 5, many extras, \$525. 213-676-5219.	C
Mobile Home, 10' x 41', 1-bdrm., expando, in adult park, 10 min. from Northrop, \$3,500. 213-324-5140.	C
Surfboard, 9' 6", \$40. 805-495-6083.	C
Acreage, 5 acres, Antelope Valley, \$45 dn., \$45 mo., no int., \$4,500. 213-378-1026.	C
Clarinet, Selmer Signet Special, all wood, \$125. 213-671-6562, 213-673-5663.	C
Flute, Selmer Bundy, case, \$75. 213-375-6773.	C
Archery Equipment, 7 bows, man's & woman's chests, arrows & books, \$40. 213-430-2619.	C
Surfboard, 7' 10" Weber, mini feather, 3 mos. old, \$80. 213-374-4909.	C
TV, Zenith, Space Command 400, 21" console, walnut, \$25. 213-325-8175.	C
Mimeo Machine, Gestetner, 300 series, \$300. 213-676-0197, 213-676-7273.	C
House, 2-bdrm. & den, lge. fenced yd., Culver City, \$27,500. 213-883-0430.	C
Piano, grand, w/bar top, stools, & bench, Marshall & Wendall, \$400. 213-378-2193.	C
Regency Ranger, C.B., extra speaker, \$90. 213-569-9306.	C
Piano, black & gold w/mirror, upright, \$225. 213-324-7730.	C
Honda, 1965 CB 177, 305 cc, \$295. 213-547-4689.	C
Air Conditioner, hvy. duty, water-cooled, w/ stand, 1 yr. old, \$20. 714-528-2382.	C
Bar, w/sink, top & mosaic tile front, 11' long, \$100. 213-644-3913.	C
Pistol, 45 cal. auto. M1911 Remington, \$100. 213-675-8390.	C
Home, w/lge. pool, cabana, 3-bdrm., 2 baths, 2,000 sq. ft., bltins, det. gar., 15 min. to Norair, \$31,500. 213-372-6830.	C
Brazing & Cutting Rig, hvy. duty Victor, all size welding & cutting tips, other arc & gas equip., \$125. 213-373-3396.	C
Trailer, 4' x 6', metal, \$50. 213-371-8051.	C
Boat, 20' Pacific Starliner, 75 h.p. Johnson, completely equipped, 15' whl. trailer, \$1,500. 213-375-5914.	C
Trimobile, 1960 Daihatsu, \$100. 213-943-5842.	C
Wig, blonde, hand-tied, \$50. 213-545-2431.	C
Tennis Racket, w/3 ball pocket & frame, \$10. 213-537-3098.	C
Motorcycle, 1947 Harley Davidson 3-wheeler, Triumph front end, \$150. 213-370-0594.	C
Cartop Carrier, \$5. 213-329-3286.	C
Miscellaneous For Sale	
Trail Bike, Yamaha, 55 cc, \$120. 213-321-4801.	C
Motorcycle, 1946 Ariel semi-chopper, 550 cc single, new modified eng., extras, \$600. 213-672-1738.	C
Home, 3-bdrm., in Holly Park, many improvements, 5 min. from Norair, \$26,950. 213-323-4729.	C
Tape Deck, for auto, 4-track w/2 spkrs., for 12 volt battery, \$30. 213-750-2657.	C
House, 3-bdrm., 2 baths, stucco, rental in back, \$20,000. 213-671-7914.	C
Picture Frames, hand-carved, Mexican, std. sizes, \$4.70 to \$12.65. 213-465-7173.	C
Home, Rolling Hills area, 3-bdrm., 2½ baths, fam. rm., 2 f/places, w/horse lot, \$89,500. 213-377-1043.	C
Lot, o/looking Lake Elizabeth, on paved street, electricity & water, 10% dn., \$4,150. 805-947-8389.	C
Slide Magazines, 13, Airequipt circular, \$1.25 ea. 213-775-1066.	C
Encyclopedias, American Peoples, yearbooks, atlas, & shelf, \$95. 213-396-6739.	C
Engine, 1964 Mercury outbd., 65 h.p. w/ controls & new tach., \$565. 213-479-5653.	C
A.D.F., Lear, recent o/haul, 12 volt, \$225. 213-832-1672.	C
House, 3-bdrm., fam. rm., 1¼ baths, bltins, recently redecorated, det. gar., fenced yd., 10 min. from Norair, 10% dn., \$28,500. 213-323-4116.	C
Trailer, 28' Pacemaker, awning w/closed-in zipper sides, \$600. 213-329-7218.	C
Wheel Covers, wire spoke, 4 14", \$25. Box 1903.	C
Surfboard, & racks, 9' 2" Joy Hanisaki, \$70. Box 1904.	C
Camera, 35 mm Exakta, single lens, reflex, \$90. Box 1905.	C
Tape Recorder, Pentron mod. HF 400, incl. microphone, \$29. 213-675-0788, 10 a.m. to 2 p.m.	C
Honda, 1967 305 Scrambler, 2,000 miles, \$495. 805-498-3046.	C
Boat, 1968 Glastron inbd.-outbd., all fiber-glass, 120 h.p., many extras, \$3,800. 213-451-0887.	C
Home, 3-bdrm., 1¼ baths, f/place, cpts., b/wall, sprinklers, 2-car gar., screened-in patio, 5 min. to Norair, \$27,900. 213-327-8289.	C
Home, 5-bdrm., refrig. a/c, 3-car gar., undg. util., 600 sq. ft. covered patio, dps., near Northrop Ventura, \$38,000. 213-889-8075.	C
Seatbelts, 2 for Mustang, blue, \$5. 213-788-9709.	C
House Trailer, 35' x 8', 1-bdrm., 1962, \$2,300. 213-673-5501.	C
Guitar, Hagstrom, bass, w/amplifier, St. George, \$175 or sell sep. 213-675-0191.	C
Home, stucco, 3-bdrm. & den, 2 baths, patio, 2-car gar., cement block fence, cpts., \$21,995. 213-671-8401.	C
Record Player, Philco, stereo, maple cabinet, \$100. 213-671-0018.	C
Surfboard, Hawaii, 9' 6", \$65. 213-375-6645.	C
Doors, 10' sliding glass, \$75. 714-871-2046.	C
Motorcycle, 1965 Honda, Super Hawk, extras, \$325. 213-370-0250.	C
House, 3-bdrm. & den, cpts., dps., 1½ baths, carport, 2½-car gar., rumpus rm., \$27,500. 213-679-2771.	C
Wanted to Buy	
Rifle, 44-40, lever action, or 44-40 handgun. 213-323-4257.	D
T-Bird, 1960 h/top, must be clean, low mileage. 805-482-6740.	D
Model Airplane Engines, any Cox Medallion or Tee Dee & old model airplane kits. 213-377-6193.	D
Edger, gas. 213-671-1012.	D
Target Rifle, 22 cal. Remington, mod. 513 or better, for less than \$50 & target scope. 213-671-0835.	D
Marine Sextant, used, in good condition. Box 1906.	D
Free (To Be Given Away)	
Parakeet, green & yellow, young, w/bird cage. 213-454-4227.	F
Pups, 5, 5 wks. old, male & female. 213-833-2707.	F
Rentals Offered	
Apt, 2-bdrm., unfurn., 1 child o.k., \$130. 213-679-8035.	G
Apt, 1-bdrm., unfurn., closed gar., near Northrop, \$95. 213-756-0100.	G
House, 2-bdrm., furn., Inglewood area, \$150 mo. 213-823-1910, 213-823-5225.	G
Apt, 1 & 2 bdrm., cpts., dps., bltins, all elect., closed gar., 5 min. to Nortronics PV, unfurn., \$95 - \$130; furn., \$115 - \$150. 213-375-9397, 213-375-2091.	G
Cabin, Green Valley, \$25 w/nd; \$45 wk. 213-324-0649.	G
House, 3-bdrm., bltins, cpts., dps., 2 baths, f/place, fam. rm., dble. gar., Huntington Bch., \$170 mo. 213-329-9464, 213-327-8994.	G
Apt, 1-bdrm., unfurn., 5 min. from Norair, bltin oven, pantry, closed gar., \$140. 213-370-6018.	G
Townhouse Deluxe, 4-bdrm., 2½ baths, cpts., dps., bltins, screened-in lanai & patio, pool, children & pets o.k., \$250 mo. on lease or lease w/option to buy. 714-635-1686.	G
Cabins, Lake Gregory & Crestline, sleep 6, \$25 w/ends; \$60 wk. 213-391-2040.	G
Apt, 2-bdrm., unfurn., cpts., dps., bltins, closed gar., pvt. patio, \$125. 213-541-1226.	G
House, 1-bdrm., unfurn., water & trash pd., \$105 mo. 213-679-2121.	G
Rides and Riders	
Rides Wanted	
6 a.m. — 3:42 p.m.	
LaBrea & Centinela, Inglewood. Jerry St. John, Norair ext. 2632, 213-672-4749.	
7 a.m. — 3:42 p.m.	
Brookhurst St. & Cerritos St., Anaheim. Opal M. Stumbo, Norair ext. 1216, 714-535-7461.	
8 a.m. — 4:45 p.m.	
Brookhurst & Katella area, Anaheim or Garden Grove, Irvine. Robin S. Green, Norair ext. 1144, 714-833-0939.	
Rentals Offered	
Apt, near King Harbor, cpts., dps., bltins, gar. w/storage cabinets, 1-bdrm. \$125; 3-bdrm., 2-baths, \$180. 213-372-8835.	G
Apt, 1-bdrm., cpts., ocean view, \$75. 213-677-1310.	G
Cabin, Green Valley Lake, \$35 w/end; \$55 wk. 213-320-2002.	G</



## Operation Roundfile Tops Savings Goal by \$15,000

Operation Roundfile has exceeded its savings goal by more than \$15,000.

That's the report from Barbara Fuller, who was coordinator of the month-long drive, conducted at Northrop Ventura in August to save money by eliminating unnecessary items.

It was hoped that Roundfile, which will become an annual drive, would reach a savings total of \$101,000. The total actually reached was \$116,857.38.

The Engineering department recorded the greatest savings, \$52,993.49. Savings were registered by the amount of unnecessary files, obsolete papers, duplicate forms and other unneeded items eliminated.

Savings reported by other departments included:

Production Operations, \$32,718; Contracts, \$7,418.02; Marketing, \$6,253.67; Finance, \$6,202.41; Business Management,

\$6,082.73; Quality Assurance, \$5,189.06.

"Naturally, I'm pleased with the response we received in support of Roundfile," Mrs. Fuller said. "The department coordinators did their jobs well, and everything was carried out according to plan."

### Ventura Hosts AFEWI Officers

Four Air Force officers who are assigned to Northrop under the Education With Industry Program visited Northrop Ventura this month, where they attended an orientation briefing and toured all facilities.

The officers—all captains—are Keneth Hughes, Claude B. Lowery, David Martin and Lee Whitley. They were accompanied on the September 11 tour by H. G. Blocher, a Norair Customer Training supervisor.



**APOGEE MEMBERSHIP**—One of the newest members of the Apogee Club at Northrop Ventura is William Freeman (right), senior Marketing representative. Presenting him with his membership certificate is T. E. Flannigan, Ventura vice president and Marketing manager. Mr. Freeman was selected for Apogee Club membership in July. The group was formed to honor outstanding performance on the Apollo Program.

## Frangos, Huss Pass Mid-Point In Quest for Higher Degrees

Two Northrop Ventura men have passed the halfway mark in a two-year UCLA Engineering Executive Program which leads to a master's degree in Engineering.

Ed Frangos, supervisor of Thermodynamics, and Ron Huss, senior engineer in Advanced Design, began their studies in June 1967 and will receive their degrees in June of next year.

"The comprehensive program has been in existence since 1956," Mr. Frangos said, "and to date more than 100 companies are represented in its 365 alumni."

In the current program, Mr. Frangos, Mr. Huss, and their classmates are conducting the over all system design of a hypothetical new city of 100,000 population, which will offer socio-economic mobility to the underprivileged.

"At the end of the current

school year," Mr. Frangos said, "we'll present the thesis as a class. The curriculum is updated constantly and introduces new concepts as they are devised."

Participants in the UCLA program meet one day a week, from 3 to 5:30 p.m. and from 7 to 9:30 p.m. Forty-eight quarter units are required, in addition to the thesis.

Mr. Frangos joined Northrop Ventura in 1962 and already holds a master of science degree from the University of Pennsylvania. Mr. Huss has been with the company since last November.

Wes Stoeltzing, formerly at Northrop Ventura, and now Northrop Norair CF-5 project engineer in Canada, was in the program from 1965 until 1967, receiving his master's degree in June of 1967.



**PACKING THE PARAWING** — Officials of Northrop Ventura's Parawing Program, Carey Buhler (second from right) and Jack Moeller (right), talk with personnel at the El Centro

Field Test branch. They are Evan Stump (left) and Vic Matakas. Testing of the intermediate-scale Parawing is continuing at a schedule of one drop each week.

### BILL CRAIG HELPING

## New ASTM Chapter Making Its Debut

The American Society of Tool and Manufacturing Engineers (ASTME) is about to make its debut in Ventura County.

Northrop Ventura's Bill Craig, member of a San Fernando Valley chapter of ASTM for three years, is active in the organiza-

tion of a Ventura-Santa Barbara County chapter of ASTM.

"We have a need for more professional societies in Ventura County," Mr. Craig said, "and we feel that the formation of an ASTM chapter in this area will be beneficial to those persons who are eligible to join but have not been affiliated yet."

Mr. Craig hopes to find 75 senior members; needed to establish an independent chapter. At the present, the closest ASTM chapters are in North Hollywood and Canoga Park.

"ASTME is an outstanding professional society," Mr. Craig said, "founded to advance scientific knowledge in the tool and manufacturing profession. Its pro-

grams lead to personal advancement, professional fulfillment and improved culture."

Senior members must be at least 30 years old, with either a degree in science or engineering and five years experience as a tool or manufacturing engineer, manufacturing executive, or a tool, die or machine designer, or over 30 years old with 10 years of experience in any of the above-named categories. Anyone employed in Manufacturing or Engineering is eligible as a regular or associate member.

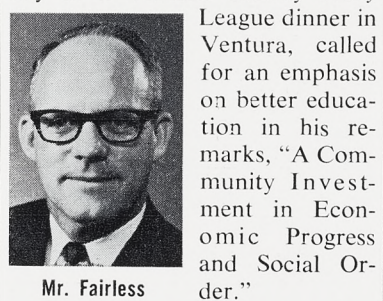
Mr. Craig is supervisor of Manufacturing Engineering Services. Additional information may be obtained by contacting him on ext. 1129.

### FAIRLESS FEELS

## Better Schools Needed

Greater educational opportunities for all citizens, and an awareness that growth for growth's sake is undesirable, were urged last week in an address by Rex Fairless, Northrop Ventura's director of Industrial Relations.

Mr. Fairless, speaking Thursday at a Ventura County Navy



Mr. Fairless

League dinner in Ventura, called for an emphasis on better education in his remarks, "A Community Investment in Economic Progress and Social Order."

"We must provide education, work training and services which will enable each individual to sustain himself in the job market," Mr. Fairless said.

"Society must provide schools that really educate; schools that provide good academic education for all, and effective vocational training for those who need it; schools that do not leave children with a sense of failure and a deep

antagonism to learning."

Evaluating the problems of urban growth, Mr. Fairless said society "should turn aside from the temptation of growth for growth's sake, and dedicate our efforts to growth for our community's sake. People who live in the suburbs are fooling themselves if they believe that this decay of our urban centers will miraculously stop at the city limits."

He called for a partnership of industry, the military, education, labor, government and community organizations to work toward the creation of programs and activities which will lead to equal opportunities for all.

Mr. Fairless is chairman of the Ventura County Committee on Employment Opportunities, a member of the governor's committee on employment of the physically handicapped, and a member of the advisory committee to the Academy of Teenage Scientists. He has been director of Industrial Relations at Northrop Ventura since 1962. He also teaches a class at the University of California at Santa Barbara.



# NORTHROP NEWS

NORTHROP VENTURA

Published biweekly by Northrop Corporation, Beverly Hills, California

Vol. 26, No. 20

October 9, 1968

## Royal Navy Orders More KD2R-5's

Northrop Ventura has announced follow-on sales totaling more than \$500,000 of remotely controlled target aircraft to Great Britain's Royal Navy.

Deliveries of the propeller-driven aircraft, designated KD2R-5, are scheduled to begin in July. The targets will be used by the Royal Navy for anti-aircraft proficiency training involving ships' guns and the British-developed Seacat missile.

The new contract calls for delivery of the basic aircraft only. Great Britain orders ground support equipment and spare parts separately. The British version of the target drone, like many of the other 14 nations using the vehicle, includes modifications tailored to the Royal Navy's special requirements.

Negotiations for the contract were conducted on behalf of Northrop Ventura in England by Aerial Targets, Ltd.

## DISNEYLAND

Final call for tickets to the Army of the United States Association Night at Disneyland, October 18, was issued this week by NRC.

Tickets, available at Personnel Activities outlets, sell for \$3.75 per person and are good for admission and unlimited use of facilities from 8 p.m. to 1 a.m.



*CONCEPT TO REALITY—Francis M. Rogallo (left), head of Low-Speed Vehicle branch at NASA's Langley Research Center, was visitor to Northrop Ventura's Field Test Facility at DOD's Joint Parachute Test Facility near El Centro. Parawing Project Engineer Jack Moeller conducted tour of area where parawings are packed for aerial deployment tests as part of research program for NASA Langley. Mr. Rogallo, who is credited with the original concept of an all-flexible wing, was in El Centro for the DOD/AIAA conference on Aerodynamic Deceleration Systems.*

## Largest, Fastest Jetliner Makes Impressive Debut

Amid all the fanfare and ceremony expected for the debut of the world's largest and fastest jetliner, the first Boeing 747 super-jet rolled off the assembly lines at Everett, Washington, September 30.

As impressive as the huge jet itself was the fact the first 747 rollout took place one day ahead of a manufacturing schedule set for it more than two and a half years ago, in April 1966.

Maiden flight for the initial 747

is now set for December 17, the 65th anniversary of the Wright Brother's first powered flight at Kitty Hawk, North Carolina.

### Well Attended

A crowd of several thousand persons, including airline executives, government officials, 747 program suppliers, news media representatives and select Boeing employees attended rollout ceremonies.

Those representing Northrop Corporation, a major contributor to the Boeing 747 Program, included Thomas V. Jones, president and chairman, F. W. Lloyd, vice president and Norair general manager, Welko Gasich, vice president and Ventura general manager, and L. H. Brennwald, Norair vice president and 747 Program manager.

The main address was delivered by C. R. Smith, United States Secretary of Commerce.

Twenty-six stewardesses, representing the airlines that have already purchased 158 747's, christened the aircraft by simultaneously breaking bottles of champagne along its side.

While festivities were in progress in Washington, Northrop Corporation personnel at three major divisions and a subsidiary were busily working on subsequent components for other 747's.

### Largest Program

Northrop's 747 involvement is the largest program of its kind in the company's long history. It is an all-company effort, which, at peak production, will require more than 5,000 employees working to assure its continued success.

As an example, Northrop is on schedule with Norair already delivering its sixth shipset of 747 assemblies comprising the 153-foot-long main passenger compartment of the Boeing 747. And Northrop Ventura has already delivered four shipsets of unique 747 fiberglass wing fairings.

## Apollo 7 Countdown Begun; Upgraded Systems in Flight

Within the next few days, Apollo 7, carrying Astronauts Walter M. Schirra, jr., Walter Cunningham, and Donn Eisele, is scheduled to rise from Cape Kennedy on an earth orbital mission which may last 10.8 days.

Following the nation's first manned flight in preparation for a moon landing, Apollo 7 and its crew will descend to earth suspended from an upgraded version of the Earth Landing System designed and built by Northrop Ventura.

The landing system was successfully modified and tested this year to accommodate an increase in Apollo 7's weight from 11,000 to 13,000 pounds, necessitated by safety modifications to the craft following the fatal launch pad fire early last year.

If results of the nation's first manned mooncraft flight match expectations, the impetus of success could carry the next Apollo crew around the moon and back in December, according to NASA officials.

The possibility of such a dramatic subsequent Apollo flight this year is predicated on the success of a multiplicity of missions

to be performed by the spacecraft and its crew.

Prime among these missions are:

Tests of Apollo's guidance and navigation system for getting to the moon and back.

Tests of Apollo's 22,000-pound thrust propulsion system for rendezvous with the S-IVB booster stage. While there will be no actual docking with the S-IVB, the rendezvous will simulate the pick-up of the landing vehicle in which the astronauts will descend to the moon and return to Apollo 7 for the voyage back to earth.

Tests of new personal gear, new procedures, and new safety features, including new flame-proof pressure suits.

## Referral Award Plan Extending Payment Period

Northrop Ventura is extending the Employee Referral Award Plan from October 1 to November 1, according to R. J. Theibert, acting chief of Personnel. Another skill has been added to the list of positions for which up to \$100 will be paid.

The new skill added to the list is milling machinist, for which \$100 each will be paid to employees successfully referring such a job candidate. Applicants must be hired on a full time basis and must remain on the payroll in the designated job for at least 90 days.

## Venturans Invited To 'Family Days'

Northrop Ventura employees and their families have been extended a special invitation to take part in Family Day observances planned by Norair and Nortronics Divisions, Sunday, October 20.

Norair facilities in the main Hawthorne plant will be open to visitors from noon until 4 p.m.

Nortronics facilities at Palos Verdes, Hawthorne and Anaheim will welcome Northrop visitors from noon until 3 p.m.

Each Family Day will include tours of major production areas.



*SKILLED CRAFTSMEN like those above are turning out increasing numbers of components comprising Northrop Ventura-supplied wing fairings for the Boeing 747 jetliner. One of the production steps involves placing and lamination of three layers of epoxy pre-impregnated glass cloth which becomes the outer skins of the 747 wing fairing sandwich structure. Additional production pictures are carried on page 6; pictures of the rollout of the first 747 on page 4.*

## JOHN EVANS NAMED TO HEAD NEW UNIT

John Evans, who had been director of Experimental Fabrication, last week was chosen to be director of the newly created Ventura Division Manufacturing Program Planning section.

The announcement was made by M. A. Maurer, Ventura vice president and manager of Production Operations.

At the same time, Mr. Maurer announced that Ralph L. Friesen, who had been director of Manufacturing Engineering, will serve as director of Experimental Fabrication, replacing Mr. Evans.

Under the realignment, effective immediately, Mr. Evans will be in charge of the Industrial Engineering and Project Planning groups.

Mr. Friesen has been with Northrop since May 6, 1946, and with Northrop Ventura since June 16, 1958.

Mr. Evans has been with Northrop Ventura since 1953.

## John Steman Occupies 'Best Seat' When Brush Fires Threaten Plant

The best seat in the Conejo Valley for the September 22 brush fire which burned several hundred acres in the Newbury Park vicinity was on the roof of Northrop Ventura's Administration building.

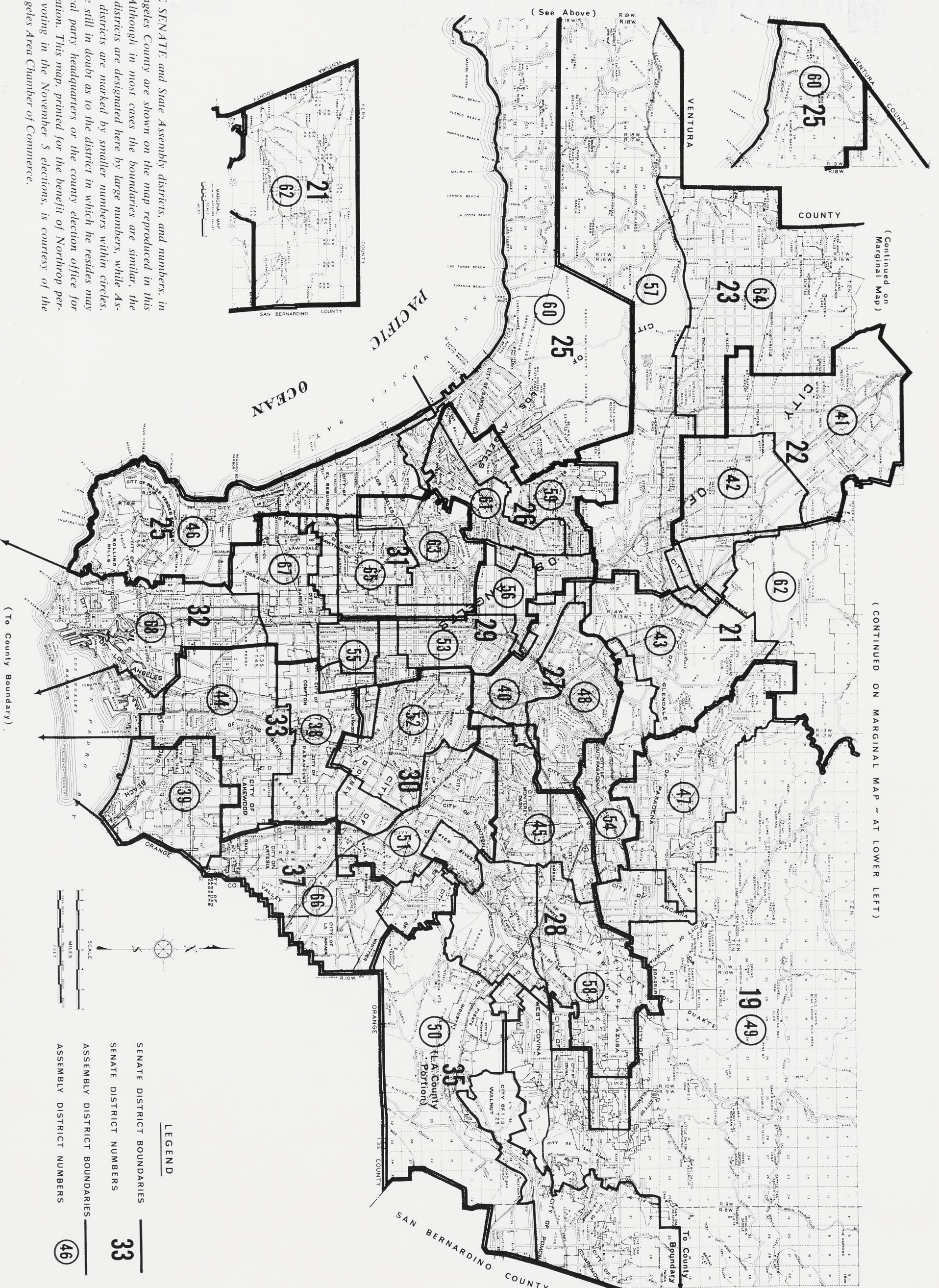
It was occupied by John Steman, supervisor of Plant Protection, who watched a 50-foot wall of flame come within a mile of the plant before borate bombers and changing winds diverted the fire's path.

"The plant was never in danger from the wall of fire

itself, because brush has been cleared from the area," Mr. Steman said, "but burning embers falling on the roof are always a threat."

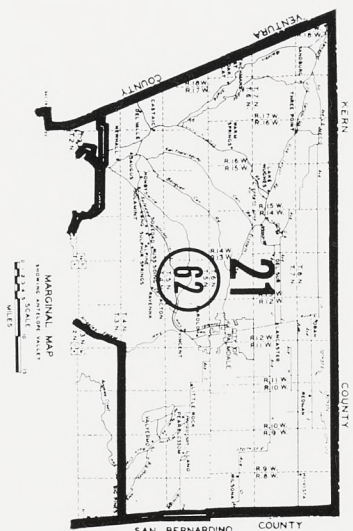
Members of the Northrop Ventura guard force were called in after the Sunday afternoon blaze reached the danger level, Mr. Steman related. A fire watch was established at the outlying "Ft. Conejo," where maintenance equipment is stored. Other security officers rolled out hoses on building roofs as a precaution.





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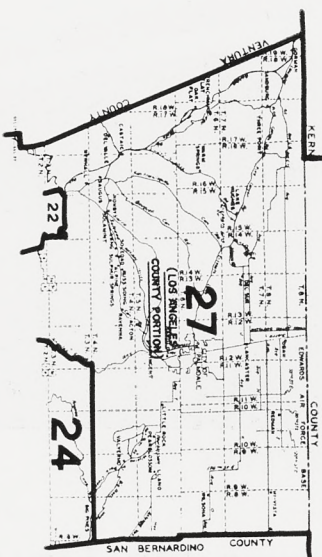
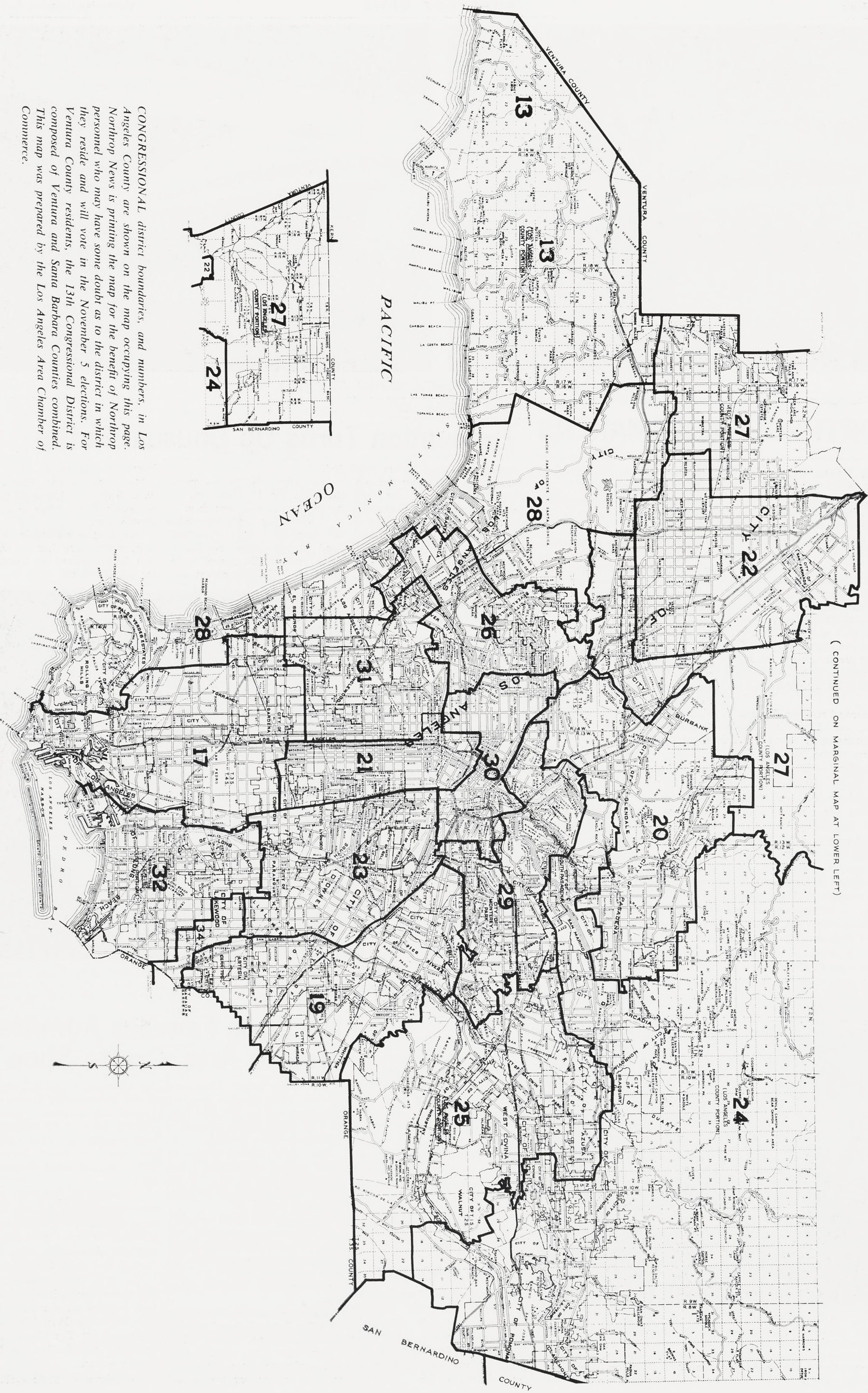


- LEGEND**
- SENATE DISTRICT BOUNDARIES ——— **33**
  - SENATE DISTRICT NUMBERS
  - ASSEMBLY DISTRICT BOUNDARIES ——— **46**
  - ASSEMBLY DISTRICT NUMBERS

STATE SENATE and State Assembly districts, and numbers, in Los Angeles County are shown on the map reproduced in this page. Although in most cases the boundaries are similar, the Senate districts are designated here by large numbers, while Assembly districts are marked by smaller numbers within circles. Anyone still in doubt as to the district in which he resides may call local party headquarters or the county election office for clarification. This map, printed for the benefit of Northrop personnel voting in the November 5 elections, is courtesy of the Los Angeles Area Chamber of Commerce.

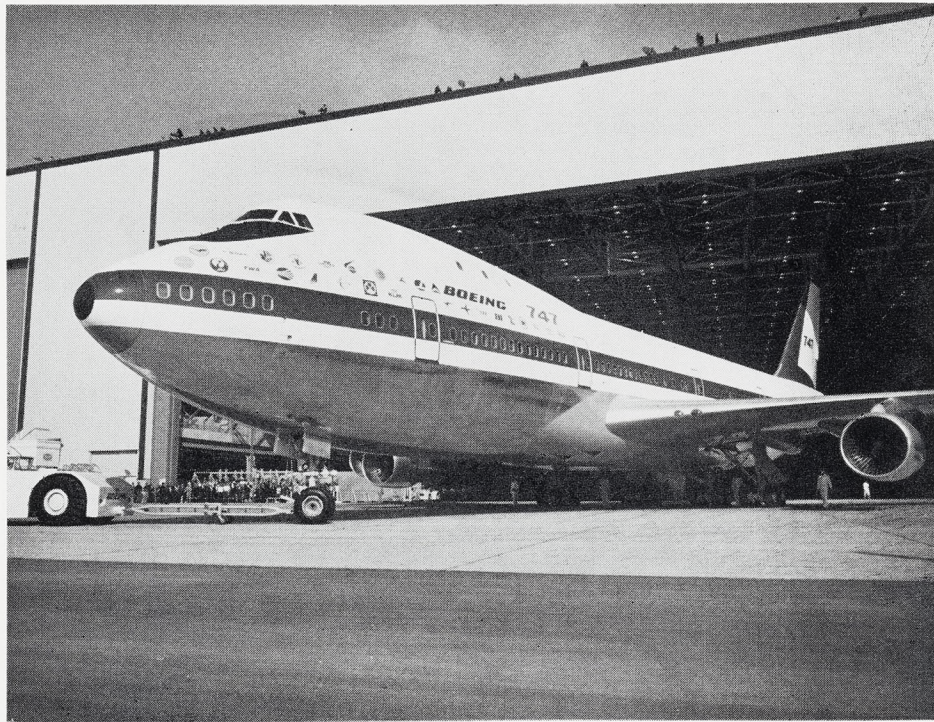
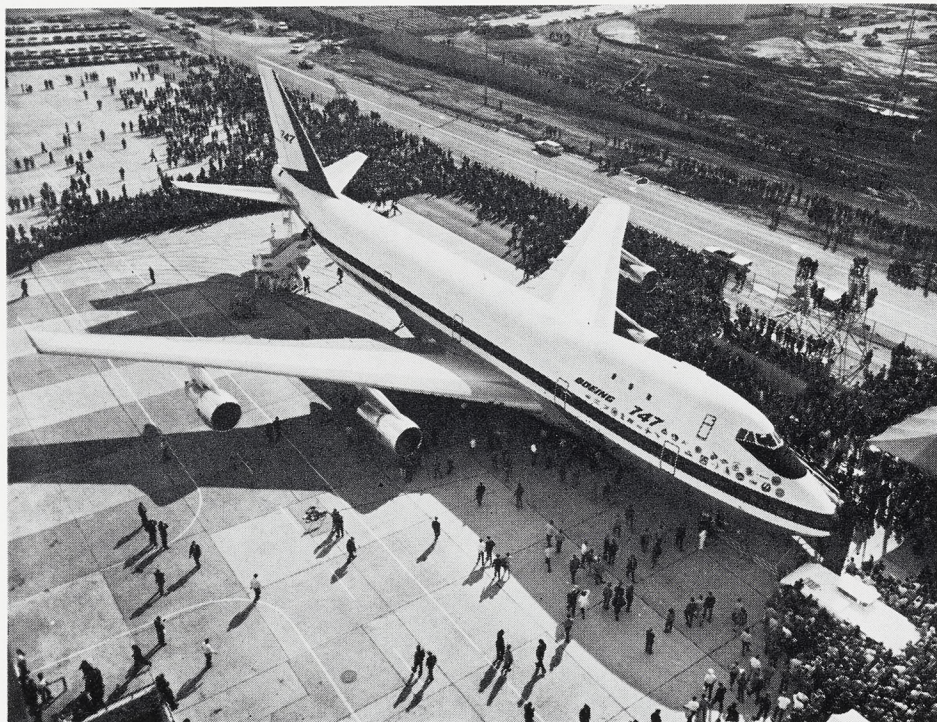


(CONTINUED ON MARGINAL MAP AT LOWER LEFT)



CONGRESSIONAL district boundaries, and numbers, in Los Angeles County are shown on the map occupying this page. Northrop News is printing the map for the benefit of Northrop personnel who may have some doubt as to the district in which they reside and will vote in the November 5 elections. For Ventura County residents, the 13th Congressional District is composed of Ventura and Santa Barbara Counties combined. This map was prepared by the Los Angeles Area Chamber of Commerce.





SPECTACULAR BOEING 747 JETLINER MAKING ITS PUBLIC DEBUT

Photos by The Boeing Company

## NORTHROP NEWSMAKERS

**Greg Young**, son of **W. H. Young**, Northrop Corporate Laboratories, was one of nine Boy Scouts among approximately 250 taking part in the annual summer camp at Catalina Island to earn the "Rugged E" award.

**G. L. Danek**, Norair, has presented a paper titled "Correlation of Longitudinal Force Data From a Transonic Wind Tunnel Test of an AGARD Model C in the Norair 2x2-foot Trisonic Wind Tunnel" for presentation at the Supersonic Tunnel Association meeting at Ohio State University.

**Northrop President Thomas V. Jones** is one of four Los Angeles area businessmen elected board members of the National Industrial Conference Board.

The board, founded in 1916, is an independent and nonprofit institution for business and industrial fact finding through scientific research. Mr. Jones will serve a two-year term.

**Dr. Harold R. Luxenberg**, Nortronics consultant in Information Systems, is conducting two evening classes this fall in Display Systems Engineering.

Dr. Luxenberg, in conjunction with **Rudolph L. Kuehn**, is teaching the three-hour course Wednesday nights at the University of California, Irvine, and Thurs-

day nights at the University of California at Los Angeles.

The instruction began last week and will continue for 12 weeks.

**W. J. Franks and J. W. Headley**, Norair, have prepared an article titled "Axially Symmetric Bodies Having a Minimum Pressure Variation With Mach Number" for publication in the AIAA Journal.

**L. H. Walton**, Northrop program director for the Venice Facility, will participate as a panelist discussing "Hard Core Unemployment" at the 50th annual meeting of the California Manufacturing Association October 17-18 in Beverly Hills.

**D. C. Atmur**, Norair, has made an informal presentation on "Evaluation of the S/N Fatigue Life Gage" before Committee E-9 of the ASTM in a conference at Atlanta, Georgia.

**Paul Lawrason**, Ventura, has been accepted as the Northrop Corporation attendee at the forthcoming Defense Weapons Systems Management course given by the Air Force Institute of Technology, Department of the Air Force.

**Ed Burd** will assume the duties as program director for propeller drones during Mr. Lawrason's absence.

### 'COKE,' CIRCA 1925

## Excavation Turns Up Unusual Bottle

Back in the days before retail evolution brought about the non-returnable bottle and the easy-open, all-aluminum can, someone drank a bottle of Coca-Cola in the backyard of a Torrance home.

The bottle, quite different from today's Coca-Cola containers, was left by a garage, where it became buried. It wasn't unearthed until recently, when a Northrop Norair courier found it while gardening.

Midge Flint, a Northrop employee for 12 years, was digging near the garage preparatory to installing flower beds, when she found the bottle.

"I had never seen a bottle like this one," Miss Flint said. "The glass is clear, sort of bumpy, and has a profile of an Indian chief on it."

By the Indian figure are the words, "Big Chief," and the inscription, "Property of the Coca-Cola Bottling Company, Santa Maria, California, December 29, 1925."

### Page Selected For Another Southland Job

Page Communications Engineers, Inc., a Northrop subsidiary, has received a \$69,000 contract to engineer, furnish and install a microwave system linking Southern California Edison Company power substations at Eagle Rock and Gould.

The system will carry one-way closed circuit traffic utilizing a remote-control camera to allow operators at one site to monitor work at the other site. Scheduled operation date is March 1969.

Southern California Edison supplies electricity to central and southern California and central Nevada, covering a population area of approximately seven million persons. It operates one nuclear, 13 thermal and 37 hydroelectric generating plants.

### NEW ADDRESS

The Republican Party's County Central Committee office is now located at 1326 West Sixth Street, Los Angeles, rather than 315 West Ninth Street, Los Angeles, as reported in Northrop News September 25.

Miss Flint's family has owned the home for 35 years, and the house was not new even then.

"I was doing some remodeling not long ago," Miss Flint said, "and found some newspapers stuffed in the walls, apparently for insulation." The newspapers were

from 1911 and 1912.

Miss Flint plans to contact antique dealers to determine possible worth of the bottle as a collector's item.

One thing seems certain. It has to be worth more than the three-cent deposit refund she could get for it in a market.



INSCRIPTION on this Coca-Cola bottle held by Norair's Midge Flint indicates it originated in Santa Maria, California in 1925. Miss Flint unearthed it in a flower bed at her Torrance home.

## Northrop Families Admitted Free to Arts, Crafts Show

One of the largest invitational arts and crafts shows in Southern California will, for the third time, be held on the hilltop grounds of Nortronics Palos Verdes.

The event, sponsored by the Palos Verdes Community Arts Association, will be open to the public, October 12 and 13, from 11 a.m. to 6 p.m.

Admission will be \$1 for adults and 50 cents for teenagers. Children 12 and under will be admitted free. Northrop employees and their immediate families may present their badge for free admission.

The sixth annual exhibit, called "Art For Fun(d)'s Sake," will feature an auction Sunday, from 2 p.m. till 6 p.m., noted artisans and craftsmen from throughout the state and an appearance each

day by orchestra leader, composer and lecturer, Stan Kenton. Mr. Kenton will conduct a specially selected group of 25-30 amateur and professional Palos Verdes musicians in a concert Saturday, at 3 p.m. and again Sunday, at noon.

According to Mrs. H. Lawrence Bayer, PVCAA president, there will be about 30 prominent artists at the show, including potters and silversmiths, who have been invited to participate.

"Art For Fun(d)'s Sake" will also feature professional and amateur puppet shows throughout each day, a boutique, folk dances performed by The Gandy Dancers and participation by Nortronics artists.

Refreshments will be available.



SENATOR EDWARD W. BROOKE (center), accepts a model of the GR-G5 subminiature rate gyroscope engineered and manufactured by the employees of Nortronics' Precision Products department from Frederick Stevens (left), vice president and Nortronics general manager, and David N. Ferguson, vice president and manager of the Precision Products department.



# Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

## Automobiles For Sale

**Pickup**, 1967 Dodge, 8' bed w/custom tarp, custom cab, a/c, r/h, std. shift, 6-cyl., \$1,850. 213-644-3007. A

**Chevrolet**, 1956, Bel Air, r/h, auto., \$300. 213-674-6409. A

**Chevrolet**, 1959 Impala, eng. & trans. o/hailed, \$450. 213-532-6109. A

**Pontiac**, 1964 Bonneville convt., all power, \$1,095. 213-545-4015. A

**Dodge**, 1960 4-dr., Phoenix, \$295. 213-754-8092. A

**Mustang**, 1967 2+2, 289 V-8, p/s, a/c, AM-FM radio, \$2,200. 213-679-2039. A

**Chevrolet**, 1963 Nova SS, \$1,000. 213-371-1167. A

**Fiat**, 1961 1100/103D, wrecked body, dune buggy foundation, \$150. 213-941-1865. A

**T-Bird**, 1967, cpe., 2-dr., full power, a/c, \$3,500. 213-377-5947. A

**Station Wagon**, 1959 Ford, \$75. 213-325-6022, 213-325-2613. A

**T-Bird**, 1959, 2-dr. h/top, \$600. 213-675-8876. A

**Station Wagon**, 1964 Pontiac Tempest, 4-dr., air, fcr, radio, \$1,000. 213-324-1984. A

**Ford**, 1959 Fairlane 500, \$100. 213-679-0835. A

**Chevrolet**, 1960 Impala convt., V-8, r/h, p/b, p/s, auto. trans., \$470. 213-378-3255. A

**Pickup**, 1960 Chev., ¾-ton, \$600. 213-676-6021. A

**Comet**, 1960 4-dr., \$175. 213-377-3582. A

**Oldsmobile**, 1962 Starfire, r/h, p/s, p/b, tach., \$850. 213-644-6718. A

**Karmann Ghia**, 1965, new paint, \$1,500. 213-429-2130. A

**Pontiac**, 1965 LeMans, 2-dr., 326 cu. in., 3-spd., \$1,795. 213-374-6857. A

**Volkswagen**, 1967 squareback, \$1,800. 213-596-9748. A

**Peugeot**, 1969, new brakes & tires, \$200. 213-326-6195. A

**Monza**, 1962, recent o/haul, \$525. 805-495-1124. A

**Chevrolet**, 1964 Impala, 2-dr. h/top, V-8, auto. trans., p/s, \$1,250. 213-882-2429. A

**Station Wagon**, 1960 Ford, needs eng. work, \$75. 213-375-5629. A

**Chevrolet**, 1959, 2-dr., r/h, 6-cyl., auto., \$225. 213-676-9518. A

**Austin Healey**, 1956, 100-4, 4-spd. & o/drive, soft top & tonn., \$700. 213-353-0797. A

**Chrysler**, 1965 Newport, 4-dr., \$1,900. 213-375-3813. A

**Chevrolet**, 1952 coupe, stick shift, \$125. 714-962-7808. A

**Pontiac**, GTO, 1967, 4-spd., 360 h.p., \$2,400. 714-893-9578. A

**Ford**, 1963, Fastback, 390 hi. perf. bored to 427 cu. in., tri-power, 4-spd., r/h, \$900. 805-495-2269. A

**Ford**, 1937 coupe, original, \$295. 213-370-4315. A

**Cadillac**, 1955 Coupe DeVille, full power, \$750. 213-676-5334. A

**Chevrolet**, 1960, Impala, 2-dr. h/top, 283 punched to 292, stick, 3-spd., \$300. 213-323-1649. A

**Station Wagon**, 1960 Falcon, w/'62 eng., \$300. 213-327-0125. A

**Mustang**, 1965, V-8, auto. trans., a/c, p/s, p/b, r/h, \$1,595. 213-374-7546. A

**Mustang**, 1965, 289 V-8, 4-spd., Rallye-Pac, convt., \$1,499. 714-893-6620. A

**MG Midget**, 1966, wire whls., convt. top, tonneau, tach., r/h, \$1,550. 213-869-6759. A

**Pickup Truck**, 1950, ½-ton, w/Oldsmobile V-8 eng. & hydramatic, \$350. 213-676-6423. A

**De Soto**, 1956, 4-dr. h/top, p/s, p/b, \$100. 714-774-2779. A

**Jaguar XKE**, 1963 coupe, \$2,175. 213-675-2488. A

**Volkswagen**, 1968, auto., 6,000 mi., \$1,800. 213-451-4261. A

**Station Wagon**, 1963 Chevrolet, 283 eng., p/s, a/c, \$1,000. 213-596-2328. A

## Household Items For Sale

**Bed**, twin, w/bolster & cover, \$5. 213-377-6029. B

**Cedar Chest**, Lane, maple, 3 mos. old, \$40. 213-379-1423. B

**Desk**, \$25. 213-823-1910. B

**Table**, formica top, 4 uphol. chairs, \$15. 213-479-5653. B

**Bar Stools**, 4 30", dk. blue, \$10 ea. 213-472-1418. B

**China Cabinet**, lge. custom-made, light oak, bowed glass, 4 low drwrs. 79"x48"x21", \$225. 213-892-8268. B

**High Chair**, Cosco, makes into youth chair, \$10. 213-679-8426. B

## Household Items For Sale

**Bed**, dble. solid maple, \$15. 213-377-5059. B

**Sewing Machine**, Kenmore, blond wood cabinet, \$45. 213-633-3500. B

**Vegetable Juicer**, Norwalk, hydraulic press type, \$245. 213-677-6604. B

**Dryer**, elec. RCA Whirlpool, \$30. 213-375-9985. B

**Davenport**, traditional style, nylon frieze, \$45. 213-943-3516. B

**Dining Room Table**, walnut, 4 uphol. chairs, \$20. 213-545-3495. B

**Dryer**, RCA Whirlpool comb., \$25. 213-328-1520. B

**Stove**, apt. size, gas, 4-burner, \$25. 213-376-3533. B

**Dresser**, 2 5-dwr., \$15. 213-376-4831. B

**Mirror**, 24", round, \$8. 213-675-6020. B

**Stove**, O'Keefe & Merritt, gas, 4 burners, \$35. 213-679-8525. B

**Range**, Sunray, gas, \$40. 213-534-5498. B

**Washer**, G.E., front load, turquoise, \$40. 213-324-9989. B

**Stove & Oven**, O'Keefe & Merritt, bltin-type, coppertone, 4-burner unit & dble. oven, \$100. 213-325-3724. B

**Bedroom Set**, twin, w/mattresses, box springs & bedding, white w/gold trim, \$200. 213-644-4994. B

**Washer**, 1968 Maytag w/gas dryer, avocado green, \$400. 213-679-7155. B

**Coffee Table**, walnut, leatherette top, 19"x50", \$15. 213-378-0477. B

**Hide-A-Bed**, Simmons, dble. size. brown w/blue slip cover, \$30. 213-324-2992. B

**Desk**, student's, 7-dwr., \$25. 213-755-1071. B

## Miscellaneous For Sale

**Bicycle**, men's racing, Schwinn, 15-spd. gear comb., \$30. 213-676-4915. C

**Home**, tri-level w/pool, cabana, 3-bdrm., 2 baths, o/sized liv. rm. & master bdrm., det. gar., fenced, landscaped, 15 min. to Norair, \$31,500. 213-372-6830. C

**Cemetery Lot**, single, Parkview-Manchester side, Inglewood, \$450. 213-753-7484. C

**Home**, 3-bdrm., 1¾ bath, bltins, fam. rm., f/place, cpts., dps., fenced rear yd., 4 yrs. old, in Huntington Bch., \$2,200 or less dn., to 5¼% FHA, \$21,000. 213-329-9464. C

**Utility Boat**, 18', 50 h.p. Evinrude, 2 6-gal. gas tanks, lge. whl. tilt trailer, C.G. equip., \$750. 213-679-8687. C

**Carburetor**, 4-bbl. Carter & manifold for Chev. 283, 301, 327. \$25. 213-542-2098. C

**Tuner**, FM Eico HFT (90), \$25. 213-327-4267. C

**Snowmobile**, 1967 Polaris Colt 140, 15 h.p. 300 cc Hirth eng., trailer, \$825. Box 2001. C

**Ski Boat**, 13' Wizard, fiberglass tilt top trailer, no motor, \$265. 213-378-3055. C

**Porch Railing**, ornamental iron, 15 ft. long, center post, hand railing, \$27. 213-293-5993. C

**TV**, b&w, Zenith, 17" portable, \$45. 213-430-7388. C

**Boat**, 12' fiberglass runabout, trailer, 20 h.p. elec. start Johnson, all access., \$250. 213-378-4541. C

**Air Grinder**, 8" or 8" air hammer w/25 ft. of ¼" hose, 3" disc wheels, \$75. 213-373-3396. C

**Wheelchair**, Everest & Jennings, folding type, \$50. 213-324-1908. C

**Tape Player**, Lear Jet, 8-track, stereo, for auto, \$70. 213-830-6163. C

**Drafting Machine**, Bruning, 1966, \$70. 213-675-5067. C

**Organ**, Lowrey Holiday, \$475. 213-671-1432. C

**Golf Clubs**, bag & cart, \$60. 213-393-7466. C

**Utility Trailer**, 4x8, \$125. 213-326-1409. C

**Harley Davidson**, 50 cc, 1965, \$70. 213-377-4943. C

**Home**, 3-bdrm., fam. rm., ¾ baths, cpts., dps., Redondo Bch., \$27,500. 213-379-2554. C

**Radio-Record Player**, AM-FM, hi-fi, maple cabinet, Packard Bell, \$30. 213-692-6336. C

**Cemetery Lot**, Terrace of Faith, Rose Hills, \$200 ea. 213-867-0662. C

**Triumph**, 1967 T100C, 500 cc Scrambler, \$850. 213-545-3972. C

**Accordion**, Cantino, 120 bass, \$150. 213-675-7942. C

**House**, 2,000 sq. ft., Garden Grove, 2 stories, 5-bdrm., 2 f/places, bltins, cpts., dble. car gar. w/laundry rm., 12x22 covered patio, b/wall fence, GI at 5¼%, owner carry 2nd t.d., \$35,500. 213-644-6270. C

**House**, 5-room, furn. on 2½ acres, enc. patio, terms, \$14,500. 213-376-4787. C

**House**, 2-bdrm. stucco, 10 min. from Northrop, \$16,500. 213-370-4423 days. C

**Gun**, Remington model 760, 30.06, Weaver K2.5 scope, sling, \$110. 714-897-5041. C

**Tank**, head, for air compressor, many components, \$50. 213-371-2531. C

**Home**, 3-bdrm., family rm., 1¾ bath, h/wood flrs., bltins, 10 min. from Norair, \$31,500. 213-757-6240. C

**Chemical Toilet**, for camper, trailer, \$25. 213-326-6657. C

**Tools**, ¼" d.b. drill, motor, \$15. 213-754-0817. C

**Tires**, 2 slicks on 8" Chev. rims, \$50. 213-327-4081. C

**Home Exercise unit**, Stauffer, \$75. 213-375-4108. C

**Xylophone**, Deagan, \$125. 213-329-5364. C

**Pistoi**, 9mm auto., holster, extra clip, \$50. 213-785-6142. C

**Lawnmower**, 22", 3 h.p. B/S motor & catcher, \$20. 213-329-3286. C

## Miscellaneous For Sale

**Pup**, German shepherd, AKC, rabies shots, \$50. 213-465-8684. C

**Tri-Power**, 3-2's, fits Oldsmobile, \$25. 213-329-0504. C

**Dog**, part-toy terrier, brown, female, \$10. 213-374-5133. C

**Door**, 42" solid core, Schlage lock & knobs, \$30. 213-377-4198. C

**Train Layout**, H.O., approx. 60 cars, mounted on 4x10 panel, many extras, \$85. 213-291-0025. C

**Piano**, Kimball console spinet, mahogany, bench, \$450. 213-291-3778. C

**Snare Drum**, Ludwig, stand & case, \$50. 213-676-6415. C

**Camera**, Canon IVS2 bulb to 1000 sec., 28mm ultra wide angle f3.5, many extras, \$150. 213-324-3146. C

**Cemetery Lot**, 4, Eventide sec., Green Hills Memorial Pk., incl. perpetual endowment care, \$1,500. 213-376-4677. C

**Organ**, Thomas, mod. H3, blonde, 2 full manuals, \$400. 213-328-9064. C

**Sailboat**, 9½' Teacup, dacron sails, plywood & fiberglass, sand dolly, \$160. 213-321-1655. C

**Home**, 3-bdrm., lge. family rm., sep. gar., extra lge. lot, \$31,850. 213-323-0826. C

**Chaise Lounge**, redwood, pad, \$7.50. 213-324-4817. C

**Speaker**, hi-fi, 15" extended range Jim Lansing D130, 4" voice coil, mounted in Acousta-Craft maple enc., \$100. 213-326-5566. C

**Surfboard**, 9'10" Rick Improvisor, wet suit, lge. racks, \$125. 213-292-4958. C

**Duplex**, on C-4 lot, in Long Bch., low down, \$13,500. 213-375-5885. C

**Radio Equipment**, for model airplane, Bonner 8 proportional transmitter, other access., \$350. 213-645-6211. C

**Train Set**, Lionel Santa Fe, twin diesel, approx. 100 pcs. track, access., \$40. 714-635-3315. C

**Wedding Dress**, Cahill gown, ivory brocade, chapel train, long sleeve, empire styling w/veil, \$60. 213-679-4241. C

**Motorcycle**, 1967 Suzuki, X6 Hustler, \$425. 213-677-8446. C

**Micro-Caliper**, Starrett, \$15. 213-376-9600. C

**Air Cooler**, portable w/rolling stand, \$18. 213-377-3806. C

**Boat**, 25', 115 h.p. Chrysler Crown marine inbd., 3 scoop bait tank, sleeps 2-3, \$3,750. Box 2002. C

**Tires**, 5 new 8.15x15 Firestone Deluxe Champion, \$115. 213-756-1812. C

**Honda**, 1966 305 Scrambler, \$500. 213-569-7742. C

**Wig**, human hair, med. length, blonde, \$15. Box 2003. C

**Pistol**, Derringer, single shot, 22 cal., \$25. 213-327-8927. C

**Acresage**, 5 acres, Antelope Valley, \$49 dn., \$49 mo., no int., \$4,900. 213-378-1026. C

**Gun**, Winchester, old mod. 49, recoil pad, sling & 38 Colt, 2" detective special, \$160 or sell sep. Box 2004. C

**Trumpet**, \$100. 213-379-3773. C

**Land Camera**, Polaroid auto., mod. 220, b&w or color, \$65. Box 2005. C

**House**, on 2.3 acres, master planned apt. in Agoura, \$67,500. 213-783-8271. C

**Triumph**, 1965, 500 cc, \$750. 213-644-6629. C

**Fire Detection unit**, Honeywell, 8 fixtures, \$100. Box 2006. C

**Motorcycle**, 1968 BSA 650 cc, \$895. 213-429-1114. C

**Surfboard**, Dewey Weber, 9'1", \$65. 213-534-1231. C

**Bicycle**, girl's 26", \$15. 213-324-7730. C

**Drill Press**, Dunlap, bench model, ½ h.p. motor, \$40. 714-528-2382. C

**Surfboard**, 8'10", \$30. 213-375-9397, 213-375-2091. C

**Saddle**, Western, 15" padded rough-out seat, \$150. Box 2007. C

**Revolver**, 32 cal. Colt Frontier, \$40. 213-645-1274. C

**House**, 3-bdrm., 2 baths, high beam ceiling, lge. f/place, cpts., extra lge. gar. w/adjoining rm., \$24,500. 213-835-1089. C

**Guitar**, left-handed, Kent elec., 2 pickups, \$100. 213-373-5041. C

**Lawnmower**, Sears 18", 6 blade rotor, catcher, \$45. 213-370-6734. C

**Units**, 3, Inglewood, furn., 1-bdrm. ea., open beam ceiling, f/place, \$35,950. 213-676-5425. C

**Door**, 8'x6" sliding, glass, \$60. 213-371-8051. C

**Raingutter**, 110 ft., downspouts & fittings, \$25. 213-670-6365. C

**Cello**, German-made, full size, \$250. 213-430-7274. C

**Honda**, 1967 305 Scrambler, \$495. 213-425-8366. C

**Cemetery Lots**, 4, Emerald Terrace, Glen Haven Cemetery, \$275 ea. 805-498-2668. C

**Camera**, 35mm Leica 3F, F:2 Summitar, case, other access., \$200. 213-784-2097. C

**Stone Prints**, 10 Currier & Ives, miniature, \$50 or sell sep. 213-644-1359. C

**Boat**, 15' Glen L. Rebel, 105 h.p. Chrysler outbd., lge. wheel trailer, \$1,700. 213-323-7544. C

**House**, 3-bdrm., 2 baths, cpts., dps., 2 patios, pool w/dressing rm., fenced, many extras, Rolling Hills, \$64,950. 213-831-3969. C

**Airplane**, 1964 Cherokee, 180 h.p., 170 hrs. S.M.O.H., MK-12 360, whl. fairings, \$8,500. 213-372-0961. C

## Miscellaneous For Sale

**Guitar**, Rossi elec., \$60. 213-321-4801. C

**Poodles**, AKC reg., black, 2 males, 9 wks. old, \$65. 213-754-3665. C

**Wanted to Buy**

**Tent**, in good condition, min. size approx. 8 x 10. 213-323-8213. D

**Aquariums**, or equipment, in good condition. 213-542-2662. D

**Slide Rule**, w/case, 12" log log duplex trig or equivalent; K&E, Pickett & Eckel or equivalent. 213-242-9723. D

**Heathkit**, a.c. v.t.v.m. Model AV-3. 213-675-0788. D

**Corvair**, 1962, van body, does not need to be in running order, prefer good van body. 213-679-9381. D

**Hardtop** for 1966 Triumph Spitfire. 213-328-3306. D

**Thunderbird**, 1965, 2-dr. 213-673-1253. D

**Drafting Machine** in good condition. 213-373-3128. D

**Automobile** for transportation, willing to pay \$50 to \$65. 213-634-6069. D

**Drafting Table**, Mayline or Hamilton w/steel base, 48 or 60" dwg. board. 213-892-5456. D

**Toys**, antique, children's book esp. Big Little Books, old animated gum machines & old advertising art. 213-826-3061. D

**Doghouse**, for Labrador retriever. 213-370-7092. D

**Boat**, 8-10' lightweight alum. or fiberglass. 213-375-8804. D

**Heathkit DX35** or DX40, for parts, or pwr. transf. for same. 213-839-5438. D

**Revolver**, 38.40 Smith & Wesson, dble. action, 213-676-6390. D

## For Trade

**Trailster**, Cushman, trade for camper or 1963 Chev. 213-675-6303. E

**Dryer**, elec. Hotpoint Deluxe, trade for slant-board, workable TV, prof. hair dryer or w/w tires, 6-ply, 700-15. 213-671-8401. E

## Free (To Be Given Away)

**Auto Heater**, South Wind, 6 v., elec., 1-bbl. carb. 714-535-3723. F

**Pup**, black, mixed breed, 7 wks. old. 213-376-7030. F

## Rentals Offered

**House**, 2-bdrm., small den, near Marina del Rey, \$175. 213-474-0110. G

**Cabin**, Green Valley, \$25 w/end; \$45 wk. 213-324-0649. G

**Apt**, 1-bdrm., unfurn., bltins, cpts., dps., carport, no pets or children, \$100 mo. 213-327-3895. G

**House**, 3-bdrm., 2-car gar., fenced yd., children & pets o.k. \$195. mo. 213-326-2959. G

**House**, 2-bdrm., cpts., gar., fenced rear yd., 1 mile to Northrop, \$145 mo. 213-325-5705. G

**Apt**, 2-bdrm., 2 baths, cpts., dps., bltins, gar. storage space, 1 child, no pets, \$150. 213-672-5798. G

**Cabin**, Green Valley Lake, \$35 w/end; \$55 wk. 213-320-2002. G

## Rentals Wanted

**Cabin**, or room, in high desert for telescope observation of sky, weekends. 213-329-6728. H

**House**, 3-bdrm., modern, South Bay area, reasonable rent, approx. \$200, in return for excellent care. 213-679-7347. H

## Child Care

**Child Care** offered, my home, 5 days a wk. 213-679-4822. I

## Found

**Slide Rule**, 12", in Norair parking lot, Plant Three. 213-671-1490. K

## Rides and Riders

### Rides Wanted

7 a.m. — 3:42 p.m.

**Lincoln Blvd. & Manchester**, Playa del Rey. Orazio De Angelis, Norair ext. 2568, 2569, 213-823-5254, 213-670-9271.

**Sepulveda & National Blvd.**, Culver City. Douglas R. Burton, Norair ext. 1992.

**Rosecrans & Sepulveda**, Manhattan Beach. Louise Gaillard, Norair ext. 2129, 213-372-6371.

**Crenshaw & Sepulveda**, Torrance. Linda Foster, Norair ext. 2505, 213-326-5004.

8 a.m. — 4:45 p.m.

**Imperial Hwy. & Bloomfield Ave.**, Norwalk. Sandra Costello, Nort. Haw. ext. 495, 213-863-3895.

**Amie Ave. & Torrance Blvd.**, Torrance. Need to take son to babysitter on the way to work. Ricki Willey, Nort. Haw. ext. 279. 213-370-9186.

**Hawthorne Blvd. & 226th**, Torrance. Charlene Malara, Nort. Hawt. ext. 511.

### Rides Offered

8 a.m. — 4:45 p.m.

**Fly To Work From Orange County Airport** to Hawthorne. Sheldon O. Bresin, Norair ext. 4863, 714-532-1510.

### Personals

I wish to thank all the wonderful Northrop people who helped keep my spirits up during my long illness & played a large part in bringing me back to my job. I am most grateful. MARIE LUCIE MAC DONALD.

**Sincere** thanks to the many friends for their kind deeds & expressions of sympathy in the recent loss of my husband, Frank. WANDA KALUS. L

### For Sale or Trade

**Pickup**, 1951 Dodge, V-8, auto. trans., \$100 or trade for car. 213-596-2920. M

**Rug**, 12'x13', beige wool, w/pad, \$55 or trade for vacuum cleaner or maple coffee table. 213-644-7176. M

**Dune Buggy**, VW, f/glass body, tuned exhaust, \$1,250 or trade for VW bus or Kombi. 213-396-6739. M

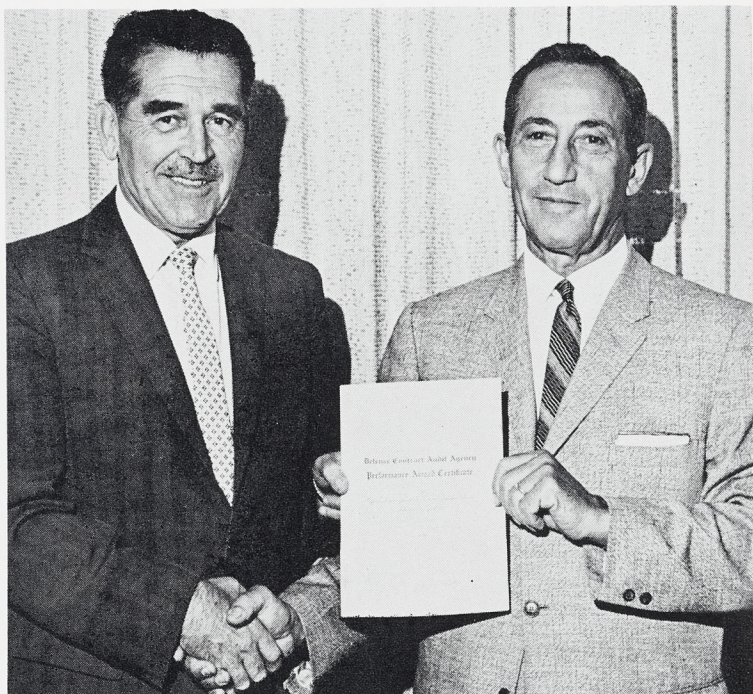
# UCSB Extension Course In-Plant Attended by 70

Northrop Ventura is sponsoring a University of California at Santa Barbara extension course leading to a certificate in manufacturing engineering.

The first 12-week course began on September 24 in the Ventura Division assembly room, and is being attended by 70 employees. Foremen, schedule planners, industrial engineers, tool engineers and buyers are some of the people enrolled in the course.

The initial course is called "Introduction to Project Planning Techniques," to be followed in the next quarter by a course called "Elements of Production Operations and Research."

To gain the UCSB certificate, students must complete eight courses selected from 19 offered in the program.





# 747 Wing Fairings—Advancing Plastics Technology

## Each Step A Meticulous Operation

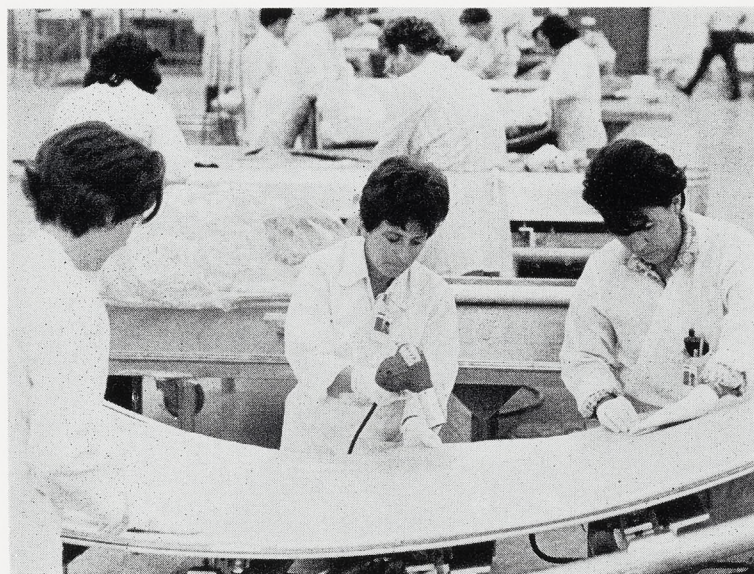
The Boeing 747 owns such an impressive list of "firsts" and "biggests" that many of the distinctions that would stand out on a lesser project sometimes are overlooked in the perennial publicity attending development of the new airliner.

For example, in last week's press coverage of the rollout of the 747, a careful reader would have been hard put indeed to find mention of the wing fairings.

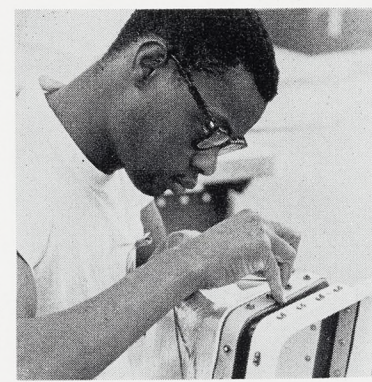
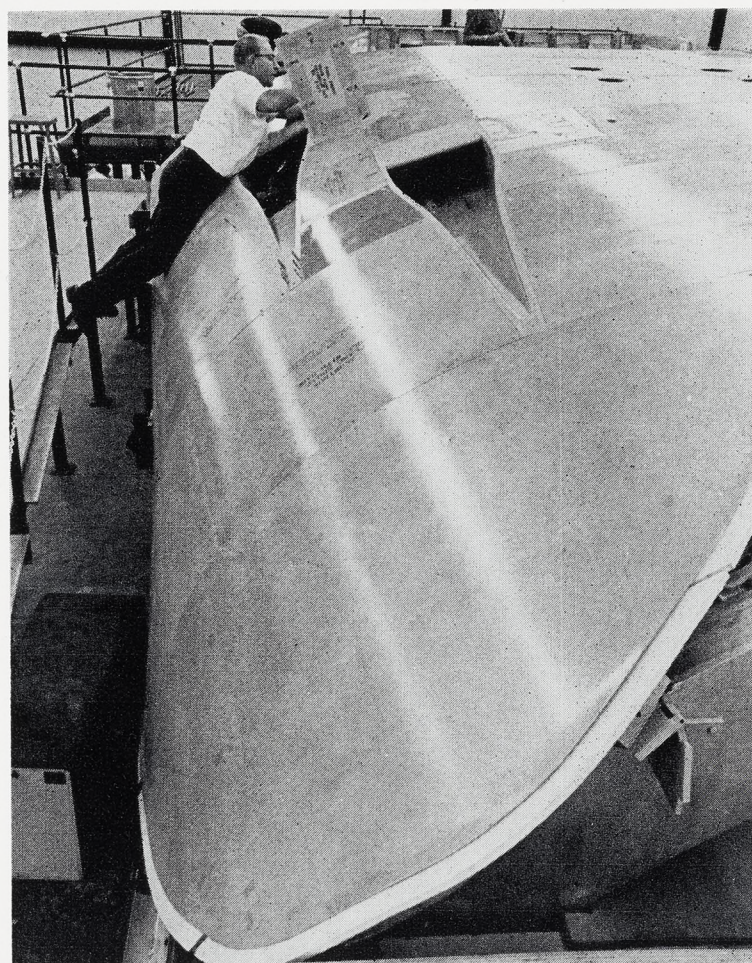
Yes, wing fairings, which are currently the largest single application of advanced plastics technology to an airplane, and a key feature in the flight performance expected of the 650 mile-per-hour 747 when it takes wing for the first time in December. The aerodynamic fairings smooth out sharp contours at the wing-fuselage intersection, reducing air turbulence.

In a meticulously detailed fabricating operation at Northrop Ventura, sections of the wing fairing are sprayed, trimmed, cut, sculptured, laid up, "cooked" in a 12 by 50-foot autoclave, and fitted to form 105 fiberglass panels that, when joined together form one giant 80-foot-long plastic sandwich. About 250 of Ventura's 1,800 employees are assigned to the 747 wing fairing program.

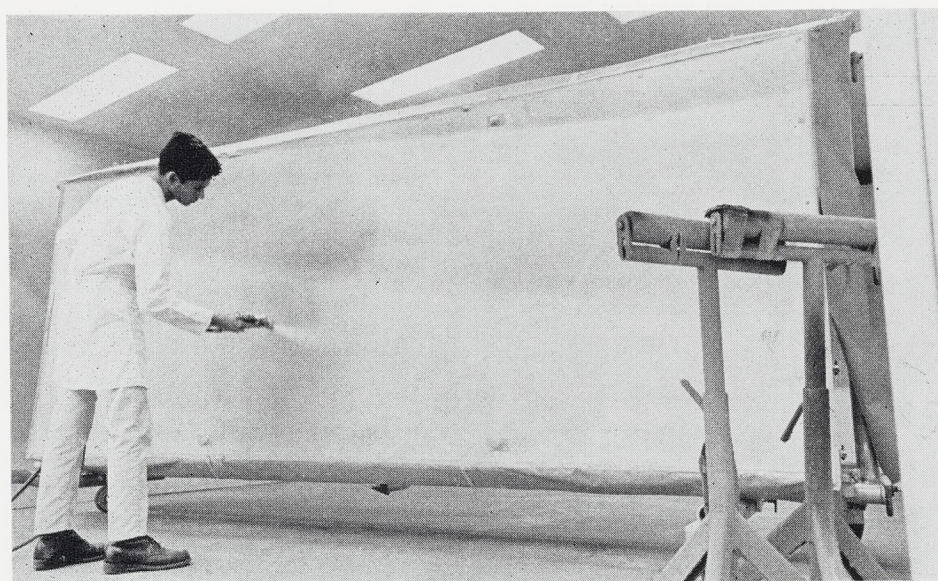
Since April, four complete wing fairing shipsets, ready for final assembly, have been shipped to Boeing's Everett plant.



APPLYING layers of glass cloth which become the outer skins of 747 wing fairing sandwich structures are (above) Sonia Greenberg (center) and Caroline Campos (right). Jesus T. Avera (below) shapes honeycomb core which becomes the center of the sandwich and gives the panel required structural strength.

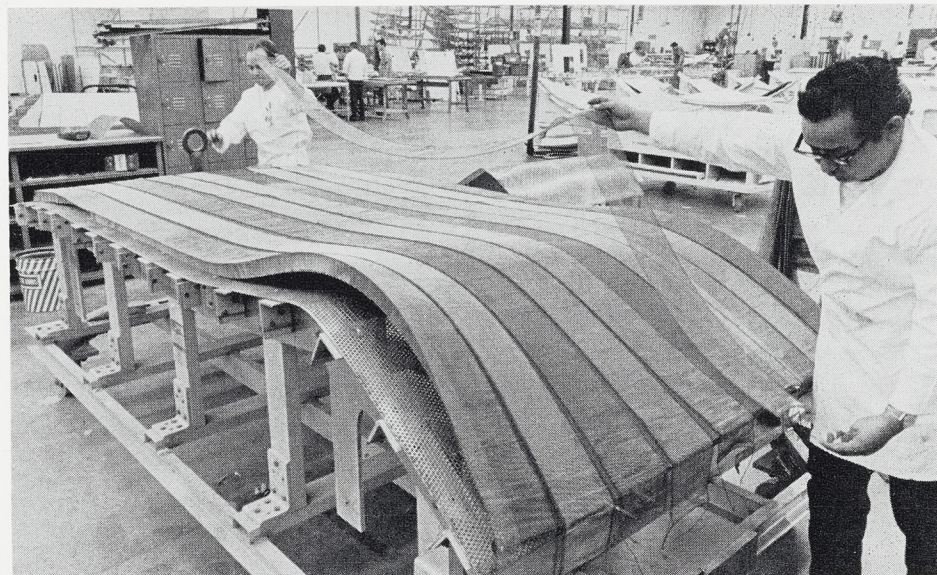


Sam Trinkle (above) works on completed installation of wing fairing panels in assembly jig for inspection before shipping to The Boeing Company. Sam Washington (left) does intricate work on a ram air intake duct component which will be installed as part of completed wing fairing. Each step followed in production involves exacting attention to details to assure the finished components meet rigid specifications.



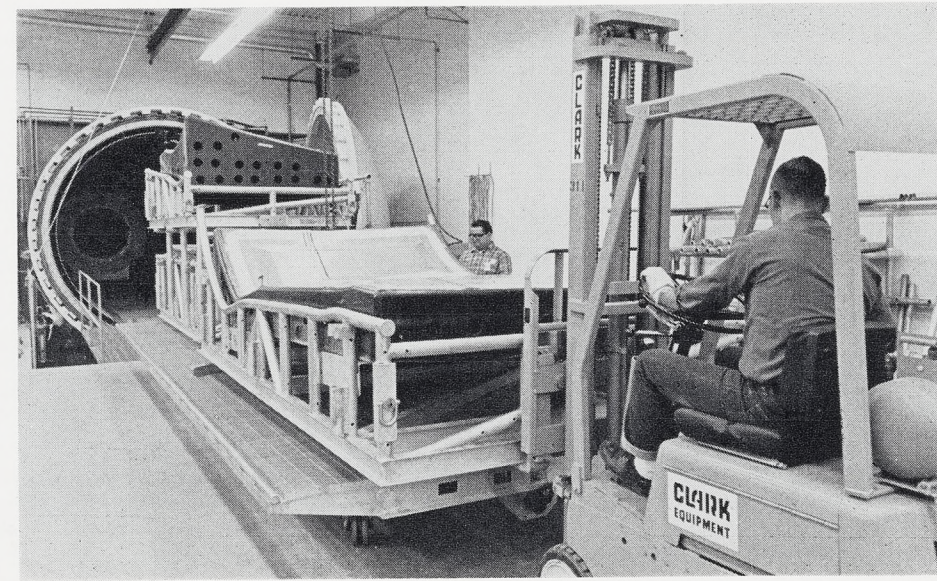
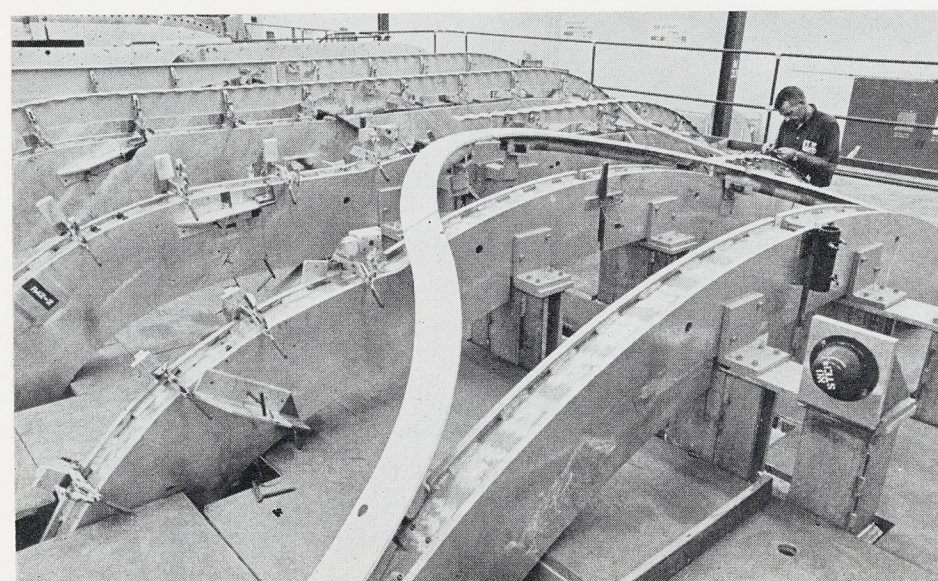
Fred Berumen (left above) applies release agent to wing fairing tool prior to spraying with a coat of molten aluminum to give panel a metal facing. Jose Savala (right

above) drapes honeycomb core material on contoured forming tool prior to hot forming. Bob Livingston (left below) installs frames in the wing fairing assembly jig on



which plastics are placed to insure proper fit before shipment. Tony Soloto and Virgil Barstad (right below) prepare to load another assembly into autoclave to be cured

for four and one-half hours at temperatures of 280 degrees under pressure. Each complete wing fairing is made up of 280 separate pieces of varying shapes and sizes.





# NORTHROP NEWS

NORTHROP VENTURA

Published biweekly by Northrop Corporation, Beverly Hills, California

Vol. 26, No. 21

October 23, 1968

## Safety Guide Distribution Begins Soon

Another step toward total safety at Northrop Ventura is being taken by the General Safety Committee, according to George Johnson, acting manager of the Quality Assurance department and chairman of the committee.

Starting next week, a newly prepared Employee Safety Guide will be distributed to Northrop Ventura employees. The pocket-sized booklets will be included in a direct mailing to the homes of employees along with a personal safety message from Welko Gasich, vice president and Ventura general manager.

The purpose of the guide is to up-date safety information and regulations and to underline precautions to be taken for the prevention of accidents. The handbook is small enough so that it can be carried in a pocket or purse for handy reference.

The safety guide is but another feature of an already successful safety program which has been under way at Northrop Ventura. Facets include eye protection program, warning signs on hazardous equipment and traffic caution signs at in-plant intersections.

However, the story of safety at Ventura involves not only obvious accomplishments but many hours of intangible efforts which have brought the program to its level of success. Much time and personal commitment have been contributed by Northrop Ventura employees.

(See GUIDE, page 6)

## A Message to All Northrop Personnel

You may have received last week a copy of the paper distributed at our plants by the UAW Union setting forth its intent to organize Northrop workers in Southern California.

The current efforts of this union follow a familiar pattern. Since 1945 similar efforts have been made 10 different times. On five of these occasions, the union did not obtain sufficient interest to authorize elections, and our employees voted down the union in each of the other five attempts.

An obvious reason why this union does not respect your previous rejections of unionization is the fact that Northrop employees represent a potential \$1 million per year revenue for the union, that would be paid by more than 15,000 Northrop employees at an average of \$6 in dues each month.

The question of unionization at Northrop is a critical one which will affect every employee whether he be supervisory, salaried or hourly. I feel that it is mandatory that you and your family understand all the actual facts and implications involved in this issue.

To be certain that all Northrop personnel have the opportunity to weigh objectively all factors raised by the union during its effort to gain your support, I have asked that your division general manager keep you fully informed on the important issues.

So that there can be no misunderstanding of your company's position on the question of unionization I can state it very briefly.

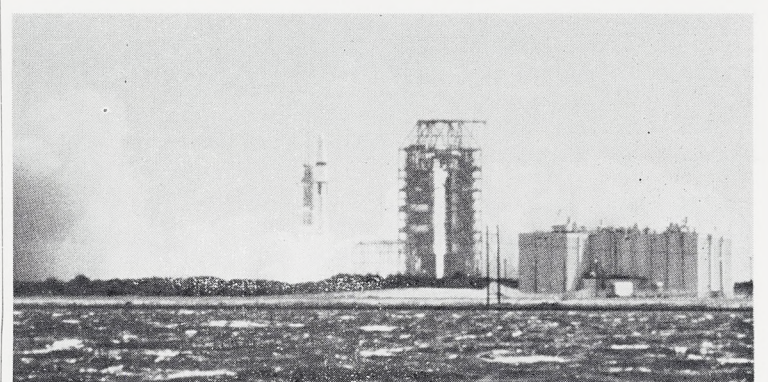
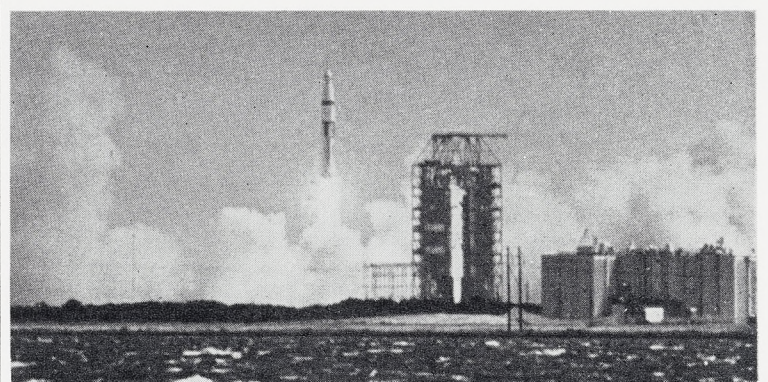
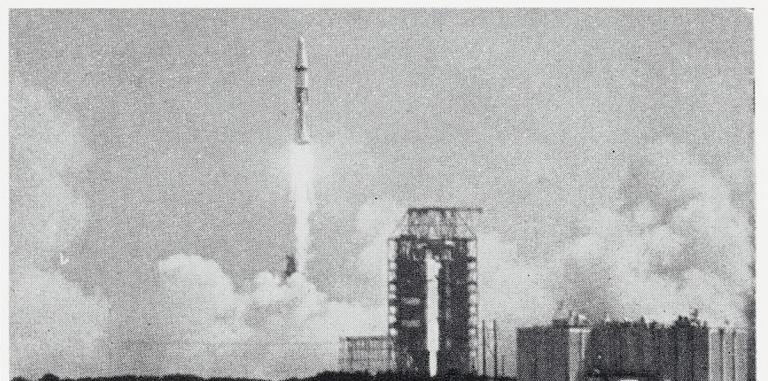
**The company believes in your right to choose freely to be unionized or not to be unionized without interference from anyone.**

**It is our view that the good relationships among the individuals in this company have been achieved and maintained by working together directly, and that, for this reason, there is no need for a union here.**

**The intervention of an outside group can only serve to weaken the recognition of the individual which has played such an important part in the growing success of our company and in making it a good place to work.**

*Thomas V. Jones*

President



UP, UP AND AWAY travels the Saturn IB rocket which carried the Apollo 7 astronauts into space. From liftoff into orbit, the launch was considered an unqualified success. The photos were taken by Welko Gasich, vice president and Ventura general manager, who represented Northrop Ventura at the launch.

## Apollo 7—Up Like a Lion, But Back Down Like a Lamb

Apollo 7 went out like a lion, but came in like a lamb.

From a dream world "high atop everything" where the minimum speed limit is 17,000 miles per hour, the spacecraft containing the first three-man astronaut crew re-entered the earth's atmosphere like a fiery meteor yesterday, then gently descended back to reality under a Northrop Ventura parachute landing system.

Eleven days earlier, the cone-shaped spaceship was lifted into orbit from Cape Kennedy, Florida, atop a Saturn IB with eight roaring engines delivering 1.6 million pounds of thrust.

The mission was designed to check out many modifications to the Apollo spacecraft as well as conduct scientific experiments from space and practice operations necessary to a moon expedition. Not the least of the modifications which came through with flying colors (like orange and white), was the uprated Earth Landing System which absorbed an extra 2,000 pounds of payload without wavering.

Beefed-up drogue parachutes (enlarged from 13 to 16.5 feet in diameter) absorbed the initial shock of deceleration and stabilization. The main parachutes were

reefed (partially opened) in two stages instead of the previous one stage. By the time the main parachutes were fully inflated, at about 10,000 feet, Apollo 7 had been slowed to the landing speed for which the landing system was originally designed.

Highlights of the Apollo 7 mission have included, in addition to the brilliant "like a dream" launch, rehearsal of docking techniques, a booster rendezvous, star-sighting tests, earth photography of terrain and weather, engineering and navigation tests, experiments in fuel economy, testing of back-up systems, main engine firing tests and several nation-wide television appearances. These were photographed by an on board mini television camera which transmitted clear live pictures of the astronauts to millions of home viewers through commercial networks.



EMPLOYEE SAFETY GUIDES are being prepared for mailing to all Northrop Ventura employees by the General Safety Committee, whose chairman is George Johnson (center). Claudia Beaumont (left), Training secretary, and Helen Baderschneider, senior administrative secretary to Mr. Johnson, are two of those who will assist in the mailing of the booklets.

## Ventura's Big Family Day Set For November 17

Family Day, an opportunity for families and friends of Ventura employees to visit the working facilities of Northrop Ventura, has been scheduled for November 17, according to Rex Fairless, director of Industrial Relations.

The day will feature an open door atmosphere with displays and exhibits of Ventura products and programs set up in many of the plant work areas. Employees will serve as guides for their guests and hosts will be on hand at the display areas to answer questions.

Souvenirs will be given to those attending and refreshments will be served.

### RAM TICKETS

A limited number of tickets are available for certain Los Angeles Rams football games in November and December through the NVRC.

The games are November 3 (Lions), November 24 (Giants) and December 15 (Colts).

Tickets will be available on a first-come, first-served basis from either Bill Bierker (ext. 1236) or Bill Umbenhauer (ext. 233).



## NORTHROP NEWSMAKERS

**Daniel E. O'Halloran**, Norair, was elected president of the American Society of Nondestructive Testing at the group's 28th annual national technical conference this month in Detroit.



Mr. O'Halloran, active in the Society for the past 16 years, has served previously as national secretary, treasurer and president-elect. He also served as an officer and director of ASNT's Los Angeles Section as well as a Don Bosco Technical Institute Student Section counselor. Through his efforts the ASNT established the Ray Pulk Memorial Scholarship Award at Don Bosco.

**J. H. Cannon**, Norair, will discuss "Skin Quality Part Protection" at a November 11 meeting of the Packaging and Materials Handling Society meeting.

**Royal B. Jackman**, Norair, has discussed "Organization Concepts for Aerospace Laboratories" at a fall management meeting of the Society of Experimental Stress Analysis in San Francisco.

**K. C. Wu**, Norair, authored a technical note titled "Continuous-Cooling Transformation Diagrams of Ti-8AL-1Mo-IV" published in Transactions Quarterly by the American Society for Metals.

**Henry Still**, Corporate office, discussed "Man's Future Environment" before the annual conference of the Western Association of Railway and Industrial Surgeons, October 4 in San Francisco. Mr. Still is the author of two recent books, "Will the Human Race Survive" and "The Dirty Animal."

**Johnny Via and W. D. Thomas**, Ventura, are attending a 17-week UCLA course on "Counseling on Alcoholism and Related Disorders." Course information will be utilized in counseling work.

**R. A. Flink**, Ventura, has been re-assigned from Unmanned

Aeronautical Systems to International Marketing. Mr. Flink has held previous posts in Customer Relations, the Northrop Washington, D.C. office and Production Marketing.

**James W. McDonald** and **James R. Stevens**, Norair, have co-authored an article "Optimized Design of Subsonic Lifting Surfaces" for publication in the AIAA Journal of Aircraft.

**D. J. Harnett**, Corporate office, has presented a speech titled "Cost and Price Analysis" before a course in Government Contract Management at the University of San Francisco.

**Chuck Merlian**, Ventura, has served as program chairman for the quarterly meeting of the Aerospace Organization Planning Round Table (AOPRT).

Principal speaker for the conference was Dr. E. L. Harmon, Norair, who discussed "How Hypnotism Can Unlock Management Potential."

**Dr. E. L. Harmon**, Norair, has presented a speech on "Advanced Composite Materials for Aircraft Structural Applications" before the San Diego Chapter of SAMPE.

### EXECUTIVES ATTEND ADVANCED COURSE

Seventeen of the company's top management personnel are currently attending the fall session of the Northrop Advanced Management Course at Palo Alto, California.

The program is the only such internal course for Northrop top and upper mid-level managers. It is designed to better equip them for the tasks of professional management, broaden their perspectives, help them recognize and take advantage of change, and to establish common semantics between all elements of the corporation.

Guest speakers are provided by the Stanford University Graduate School of Business. Course administrators are John Rushmer, director, and Lee Thornton of the Corporate office of Management Development.

## Page Begins New Iranian Earth Station

Page Communications Engineers, Inc., a Northrop subsidiary, has begun work on the first satellite communications earth station in the Middle East in the western section of Iran, near Hamadan.

The station, scheduled to go into operation in October 1969, will link Iran with North America, Europe and Africa through Intelsat III, a new communications satellite to be orbited over the Atlantic Ocean next summer under sponsorship of the International Telecommunications Satellite Consortium.

With the system, Iran will be able to transmit and receive telephone and telegraph messages as well as radio and television, black and white and color. Calls to and from Iran to the United States and Europe that now normally encounter lengthy delays will go through almost immediately.

The station in Iran will be built around a 100-foot-diameter steerable antenna and will be tied to the country's central communications center in Tehran by a microwave system.

Under the \$5.25 million contract, Page is also conducting a 15-month training program for Iranian engineers and technicians to enable them to maintain and operate the station independently.

Officials of the Iranian Ministry of Post, Telegraph and Telephone said entry of Iran into satellite communications will be a "vital factor" in enhancing the growth of the country. It is expected that Iran's revenues from international communications will double by 1970.

Page has installed more commercial satellite communications earth stations than any other company in the world.

### TIME CHANGES AGAIN SUNDAY

Over the coming weekend the nation makes its annual fall switch from Daylight Saving time to Standard time.

Northrop Corporation facilities will adjust their normal operations to comply, with work shifts beginning after midnight Saturday starting an hour later in keeping with the new Standard time.



**AZTEC AWARD**—The Mexican-American Opportunity Foundation has presented special awards to Northrop divisions for their participation in the group's On-The-Job Training Program. Dionicio Morales, executive director (left center), has just presented the award to Alan C. Morgan, vice president-Industrial Relations. Looking on are R. R. Nolan (left), senior vice president-Manufacturing and Administration, and William Larrabee, retired Northrop vice president.

## Moment of Decision Is Near; National Elections At Hand

Less than two weeks from today America's voters will go to the polls to choose a President and other government officials.

Election day is November 5. The most important thing you can do that day is VOTE.

In order to win a clear victory, a presidential candidate must receive at least 270 of the possible 538 electoral votes.

If no candidate receives this majority, the deadlock cannot be broken until December 16 when state electors meet to cast the Electoral College ballots. It is possible for some electors to switch their votes since only 16 states require electors to follow the popular vote.

If the Electoral College also deadlocks, then the election

goes to the Senate (which chooses a vice president), and the House of Representatives (which elects the president from among the three top candidates).

In the House each state, regardless of size or population, would have but one vote per ballot and a quorum requires only 34 states to be represented. A two-thirds majority of this quorum, or 26 states each casting one vote, thus could elect the president.

It is possible that 26 states, with one-fourth of the nation's population, could outvote 24 states with three-fourths of the population.

So your vote is important November 5. Don't fail to cast it. It is a cherished right that cannot be delegated.

### AF TO ADD 10th PILOT TRAINING BASE

Plans for the establishment of a 10th Undergraduate Pilot Training program base have been revealed by the Air Force.

The base, at Columbus AFB, Mississippi, is slated to open next summer.

Northrop-built T-38 Talon trainers are utilized at each UPT base in the final phases of pilot training.

The Air Force has indicated Columbus AFB will boost its pilot

training capacity from 3,950 to 4,400 pilots annually.

Bases currently involved in the UPT program, all equipped with T-38 supersonic trainers, include Randolph, Laredo, Laughlin, Webb and Reese AFB's in Texas; Williams AFB, Arizona; Vance AFB, Oklahoma; and Moody AFB, Georgia. In addition, Tyndall AFB, Florida, trains instructor pilots for the entire UPT program.



**SKULL SESSION**—Participants in Northrop's Advanced Management Course at Palo Alto, California, listen to point made by Stanford University Professor Harry Rathbun (left foreground, left photo). Clockwise from him are M. G. Gonzalez, W. E. Woolwine, and R. M. McNamara of Norair; P. O. Wierk and F. S. Perego, Corporate; Milt Kuska, Norair, and E. J. Noonan, Nortronics. At bottom right is



J. B. Rushmer, Corporate office. In right photo, clockwise from top, are D. D. Warner, Ventura; Dr. D. A. Hicks and L. R. Thornton, Corporate; T. L. McCarthy, Norair; P. L. Faranda and C. O. Anderson, Hallicrafters, and R. E. Horner, Corporate senior vice president. Not shown are Frederick Stevens and Ross Miller of Nortronics.



# Busy Northrop Field Test Crews Put Product Lines Through Their Paces

It's 11 a.m. in El Centro, and a Parawing and its test vehicle are released from a huge Air Force C-130, to make their slow descent to the California desert.

It's noon at the Navy's Pacific Missile Range at Point Mugu, and Northrop Ventura's MQM-74A target drone is launched from a ground pad into a successful flight over the ocean, to be retrieved by its own parachute system.

Back at El Centro, at mid-morning of another day, the Apollo is tested—as the date for its first manned flight draws nearer—and the triple-parachuted system is again successful.

The products are different; the test requirements are different, but the test personnel are the same—Northrop Ventura Field Test personnel, assigned to the field and systems testing of all Ventura products.

The last few months — since testing began on both the MQM-74A and the intermediate-scale Parawing—have been busy for Field Test.

"We are at the peak of our activities," Supervisor Ken Wagoner said, "because all these products are through design and are ready for full testing."

Among the duties of the Field Test crews are proposal writing,

field test planning, data reduction and report writing — plus, of course, the conducting of the actual tests.

"We take the products — the drones, for example," Mr. Wagoner said, "and fly them under conditions in which they would normally be flown. We re-create actual flight conditions as closely as possible, and then determine just how well the product withstood the test conditions to which we had subjected it."

About half of the personnel attached to El Centro—for both Parawing and Apollo testing — are permanently stationed there. Another 25 per cent are sent there on a temporary basis, and the final one-fourth consist of local employees—those who are hired from the El Centro area.

Some employees find themselves working on both programs, rather than the Parawing or Apollo exclusively.

"That way, we can place support wherever it is needed," Mr. Wagoner said. "We strive for greater flexibility."

At El Centro, there are about 20 employees for whom Northrop Ventura Field Test, has responsibility. There are another 25 assigned to Ventura itself, including many who go to Point Mugu for the MQM-74A testing.

Mr. Wagoner, who has been with Northrop Ventura for three and one-half years, explained that the test planning engineer is the key man in the operations of the Field Test group.

"He is responsible for master test plans, detail field test plans, final test reports, the establishing of future test requirements and other important details," he said.

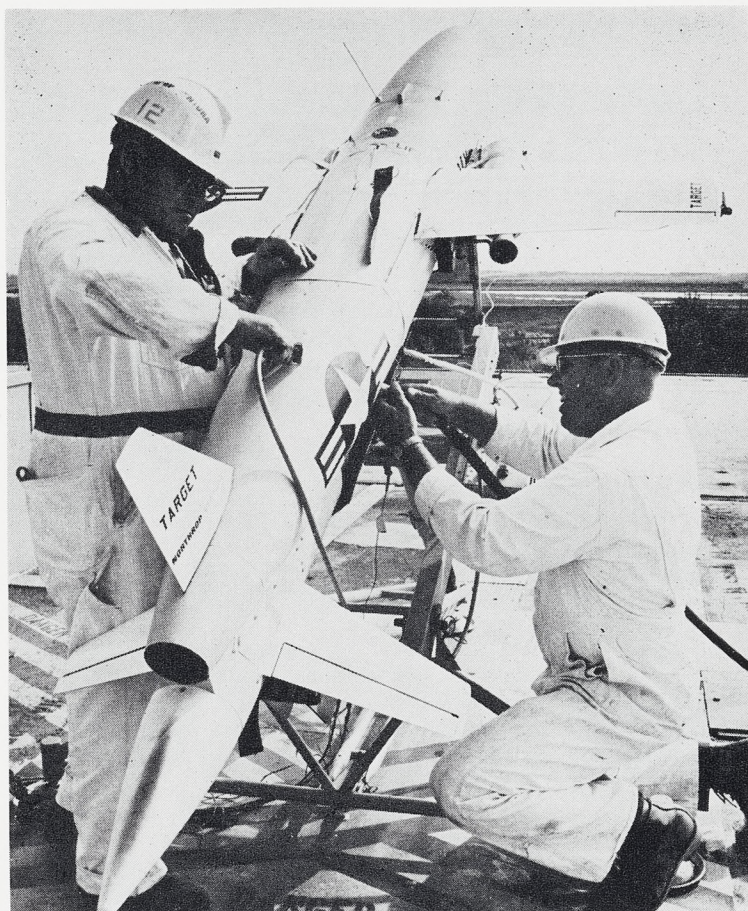
Each program has its own test planning engineer or engineers. Apollo has two, and the Parawing and MQM-74A each have one.

Supporting the test engineer are Analysis, Electrical Design, Mechanical and Fabric Design, Project office, Production and Data Reduction.

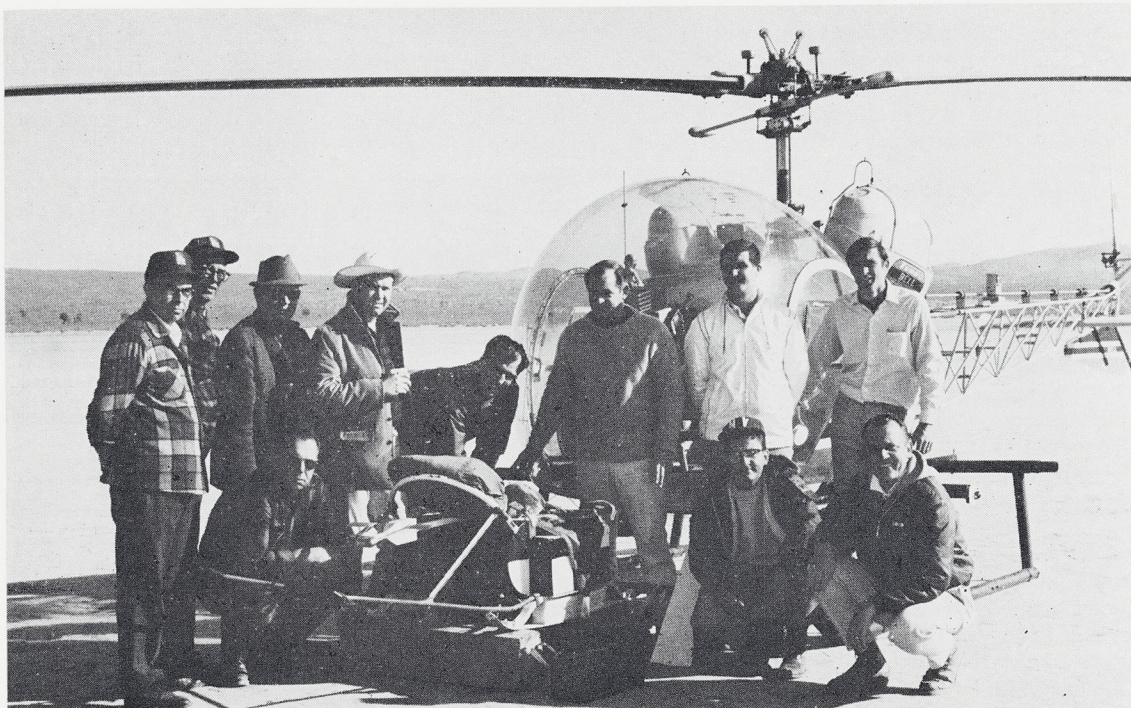
The test planning engineer coordinates all technical information with the test director, who is at the field site.

As an indication of the volume of work which must be done, consider the September schedule alone. Parawing tests were scheduled on September 6, 12, 18, 24 and 30. MQM-74A tests were scheduled for September 13, 17, 19, 24 and 26. And the Apollo was scheduled for September 12.

Mr. Wagoner holds a bachelor of science degree in mechanical engineering from Stanford University. He joined Northrop Ventura in 1964.

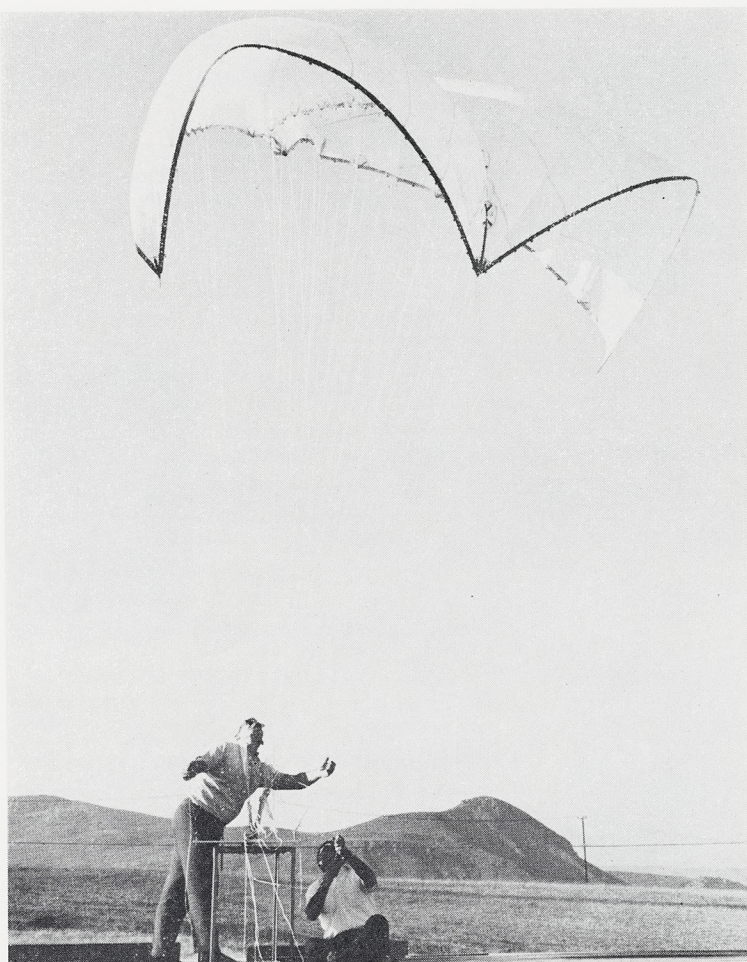


TESTING, TESTING—Hillis Wiley and Bob Vogt (above) prepare a Northrop Ventura MQM-74A vehicle for test flight at Point Mugu. Dale Thompson and Eugene Linhart (below) conduct a line length verification test in support of the Parawing program. Activities are typical of day-to-day work in support of three major test programs on key products.



LOTS OF TALENT is required in conducting crucial field tests. Helicopter (above) lifts controllable Parawing aloft for drops and glide tests. Crew includes representatives of participating agencies and includes Dillon Cox, Lloyd Simpson, Wayne Beck, Lou Raiola, Eugene Linhart and Dick Roberts of Ventura. Apollo parachute

retrieval team (left below) work in the desert near El Centro to straighten chute just used in tests. Men include Glen Boren, Hal Warren, Vick Matakas and John Morrison of Ventura. At El Centro (lower right) an Apollo test vehicle is under study following a drop from altitude beneath Ventura-built recovery system.





## WHAT DO YOU THINK?

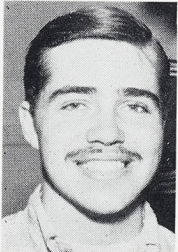
### Do You Like The Idea Of Changing To and From Daylight Saving Time

**Alice Savage, blueprint clerk, Norair-Palmdale:**

I'll stay with Daylight Time. The extra hour's sleep makes no difference once you get used to it. I like to go home when it is light and have more time before dark.



Mrs. Savage



Mr. Gilbert

**Jerry Gilbert, reproduction operator, Nortronics Anaheim:**

I don't want to change back to Standard Time. I'm for keeping Daylight Time the year around. When we turn the clock back in the fall, it makes the evenings too short. It is dark by the time we leave work and there isn't time to do any work around the house.

**Charlotte Marcum, secretary, Ventura:**

I like the extra daylight in the summer. Really my reason is mostly because it gives me a chance to take my daughter to the park and spend more time with her. Also, it seems I can get more housework accomplished in daylight than in the dark.



Charlotte Marcum



Mr. Blanco

**Jose Blanco, foreman, Ventura:**

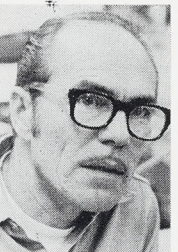
No. It's very confusing and hard to get used to. It takes me about two weeks to get accustomed to the new hours.

**Sue LaBart, clerk typist, Nortronics Hawthorne:**

I like Daylight Saving Time. I'm an outdoor girl and DST gives me more time to do the things I want to do in the summer.



Miss LaBart



Mr. Priddy

**Lee Priddy, model builder, Ventura:**

I am an outdoor man and I do a lot of work in my yard that I can't do after dark. Also, I have been using the extra daylight to rebuild my garage into a den.



**A CLOSE LOOK**—Northrop's Venice Facility held open house recently for the families of those involved in training there. More than 125 turned out to tour the facility and to see where "Dad" works. Typical was the family group above.

## POSSIBLE ANTIQUE

### This Old Axe Is Not For Grinding

Michael Axe has found an old axe to grind. But, he won't be grinding it. If it turns out to be the antique he suspects, Mike will lend it to the curator of the Western Trails Museum at Knott's Berry Farm.

It all started when Mike, a Manufacturing technician in the printed circuit board area at Anaheim, was playing host to a "little brother" assigned to him under the Big Brother program.

The two were on a hunting outing in the hills outside of Wrightwood when Mike stumbled over an old axe handle half-buried in the shifting sands near the Cajon Pass.

After uncovering it, Mike discovered not only the swollen and weathered handle, but a double-

faced axe head, corroded and dulled from age.

When he got his "treasure" home and inspected it carefully under the light, Mike could detect markings on the side of the steel blade. Using only a pencil eraser to prevent damage to the

impression, he removed some of the rust and corrosion to reveal the letters CFF, followed by a square period.

Unofficial guessers believe the axe to be a "real find." However, Mr. Axe plans to obtain a professional opinion on the matter.



MR. AXE SURVEYS HIS 'FIND'

## Merit Scholars Should Arrange For Tests Soon

High school juniors who are children of Northrop employees should inquire of their school advisers now about arrangements for taking the National Merit Scholarship Qualifying Test next February.

Northrop awards several college scholarships each year to children of employees. No special entry blanks are needed, and participation in the test serves as automatic application, but applicants must be juniors and must arrange during the fall semester to take the test.

Northrop Merit Scholars are chosen by the National Merit Scholarship Corporation from students who attain the finalist level on the basis of scholarship, leadership, and good citizenship as determined by testing and other procedures. No Northrop officer or employee plays any part in the selection of any merit scholar.

Each merit scholarship is a four year award, covering the undergraduate years. The amount of the scholarship is based on each student's financial needs in order to attend the college of his or her choice. The maximum amount yearly is \$1,500, and the minimum is \$250.

Further information regarding the scholarship program may be obtained from Stan Church, executive secretary of Northrop's University Relations Advisory Board, ext. 229 in Beverly Hills.

## New Satellite Communication Station Opens

Central America's first earth station to communicate via satellite is now fully operational. It was designed and built by Page Communications Engineers, Inc., a Northrop subsidiary.

Located at Utiye, Panama, the station launched traffic to Chile in early September, Europe in mid-September, and the United States, Mexico and Canada in early October.

"Latin America is now linked by sight and sound to nations throughout the world which have similar equipment," a Page official announced. "Businessmen and other Panamanians anywhere in the world will be able to communicate home in seconds."

## Scott Burke Tops Field In Big Santana Regatta

Scott Burke, project supervisor, Engineering Check group, 747 program, had smooth sailing in the 1968 Third Annual Santana Class Championship Regatta. He outsailed 32 entrants to take the regatta championship.

Sailing a Santana III "Sparrow," a 22-foot midget ocean racer, Mr. Burke and his crewman, Ed Jenkins, placed first, second and thirteenth to win on points. Mr. Jenkins is a former Northrop Nortronics employee.

The annual boat race is jointly sponsored by Fleet 3, Pacific Mariners Yacht Club, and the Santana One-design Association.

Mr. Burke has been sailing yachts for 20 years. He was formerly employed at Northrop Ven-

tura, but in 1960 he went to the Virgin Islands. For two years he operated his own boat charter service for tourist pleasure tours. In 1962 he returned here to work for Northrop Norair.

## 'Fall Fling' Ducats Are Still Available

Tickets to NRC's final dance of 1968, a Fall Fling, November 9 at the Mayflower Ballroom, Inglewood, are still available at Personnel Activities outlets. They sell for \$1.50 per person.

Jimmy Talbert and his orchestra will play for dancing. Social hour begins at 8:30 p.m.; dancing at 9:30 p.m. Casual dress is suggested.



**CHAMPIONSHIP FORM**—Skipper Scott Burke of Norair is at the tiller as his Santana III speedster, "Sparrow" maneuvers during annual Santana Class Championship Regatta. Mr. Burke and crewman Ed Jenkins garnered sufficient points to take the championship over 32 other entries. Photo by Beckner, Balboa.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

**Automobiles For Sale**  
Pickup, 1956 Ford, incl. '58 283 Chev. eng. comp., \$800. 213-429-1114. A  
Ford, 1934 coupe, 3 windows, \$525. 213-836-0068. A  
Pontiac, 1964 Bonneville convt., all power, \$995. 213-545-4015. A  
Oldsmobile, 1961 Super 88 Holiday, 4-dr. h/top, all power, auto. trans., \$325. 213-371-2862. A  
Oldsmobile, 1967 Cutlass Supreme, 4-dr. h/top, p/s, p/b, r/h, auto. trans., a/c, \$2,500. 213-327-0883. A  
Chevrolet, 1967, Camper Van, 283 V-8, std. trans., \$2,300. 213-672-4231. A  
Volkswagen, 1954 Sunroof, \$300. 213-377-5762. A  
Pickup, Ford, 4-spd., rebilt. 292 V-8, w/or without cabover camper, \$1,100. 213-830-4265. A  
Mercury, 1957, rebilt. trans. & eng., \$75. 213-677-8726. A  
Oldsmobile, 1960, 2-dr. h/top, p/s, r/h, a/c, \$400. 213-674-0152. A  
Volkswagen Camper, 1968, deluxe model w/pop-top, extras, \$3,250. 213-722-0668. A  
Dune Buggy, rebilt. '61 VW eng., fiberglass body, \$1,175. 213-674-9515. A  
Ford, 1968 Galaxie, 2-dr., Landau top, p/s, r/h, auto. trans., 390 eng., w/2 bbl. carb., \$2,800. 714-549-3190, 213-673-3676. A  
Ford, 1951, auto. trans., \$100. 213-377-4146, 213-377-8898. A  
Mercury, 1961 Comet, rebilt. eng., \$350. 213-865-0197. A  
Chevrolet, 1957 Nomad, chrome rims, flr. shift, p/s, p/b, \$600. 213-370-0594. A  
Valiant, 1962, 4-dr., r/h, \$395. 714-828-9256. A  
Buick, 1963 Special, a/e, p/s, V-8 eng., 4-dr., \$725. 213-322-0884. A  
Triumph, TR-3 roadster, wire whls., o/drive, new Koni shocks, \$1,050. 213-674-6955. A  
Chevy II, 1962 Nova 400, p/b, p/s, r/h, \$600. 213-679-4389. A  
Buick, 1962 Le Sabre, 4-dr. h/top, p/b, p/s, r/h, \$400. 213-630-5705. A  
Comet, 1961 2-dr., 6-cyl., stick, \$225. 213-374-8358. A  
Chevrolet, 1961 Impala, h/top, p/s, 2-dr., \$695. 213-370-6896. A  
Volkswagen, 1965, all access., \$1,150. 213-596-0521. A  
Plymouth, 1968 Sports Fury, 2-dr. h/top, p/s, auto. trans., air, 440 eng., \$3,195. 714-635-5304. A  
Caravelle, 1967 convt., with h/top, \$1,350. 714-893-2071. A  
Comet, 1966 Cyclone, 200 h.p. V-8, r/h, auto. trans., extras, \$1,750. 714-826-3631. A  
Chevrolet, 1961 Bel Air, sedan, 8-cyl., \$300. 714-774-8636. A  
Pontiac, 1961 Bonneville, sport cpe., p/s, p/b, \$600. 213-377-7317. A  
Mustang, 1961, V-8, auto. trans., r/h, p/s, p/b, \$2,195. 213-927-7683. A  
Mustang, 1966 6-cyl., 3-spd. stick, \$1,350. 714-548-5222. A  
Cadillac, 1959 sedan DeVille, a/c, full power, \$475. 213-828-3268. A  
Econoline Van, 1962 Ford, \$595. 213-377-3563. A  
Austin Healey, 1960 Sprite, \$300. 213-641-1259. A  
Chevrolet, 1965 Impala convt., 327 eng., p/s, auto. trans., r/h, \$1,400. 213-731-1003, 213-733-1875. A  
Ford, 1958 Fairlane, \$50. 213-545-5045. A  
Cougar, 1968 XR-7 GTE, 427 cu. in. eng., auto. trans., p/s, disc brakes, \$3,735. 213-394-7925. A  
Volvo, 1966 P544, r/h, \$1,595. 213-679-9730. A  
Oldsmobile, 4-dr., 1963 Dynamic 88 Deluxe, p/b, p/s, radio, \$650. 805-495-8515. A  
Oldsmobile, 1963 Super 88 Holiday, 4-dr., a/c, p/b, p/s, \$875. 213-375-3914. A  
Chevrolet, 1958, 4-dr., auto., p/s, \$325. 213-675-6963. A  
Dodge, 1964 Dart GT, 4-spd., radio, \$775. 213-372-5367. A  
Pontiac, 1962 Grand Prix, all power, a/c, \$850. 213-754-3914. A  
Volkswagen, 1962, r/h, \$800. 213-431-5464. A  
Dune Buggy, 700 lbs., constructed from late model VW parts, \$950. 213-396-6739. A  
Karmann Ghia, 1960, 1600 cc motor, extras, \$1,200. 213-672-7424. A  
Ford, 1964 Galaxie 500, 365 h.p., p/s, \$750. 213-644-1531. A  
Falcon, 1965 Sprint, r/h, p/s, fact. air, auto., \$1,475. 213-925-9776. A  
Jeep, Wagoneer, 1963, 4-wheel dr., 6 cyl., auto. trans., \$1,600. 213-482-3118. A  
Volkswagen, 1955, new trans., rebilt. eng., access., \$600. 213-632-1346. A

**Automobiles For Sale**  
Falcon, 1963 Futura, V-8, 4-spd., 2-dr., \$700. 213-375-1902. A  
Corvette, 1952 2 4-bbls., 4-spd., 327, \$1,400. 213-323-7509 days. A  
**Household Items For Sale**  
Divan, makes into dble. bed, \$25. 714-774-2779. B  
Mattress & box spring, 1 dble., 1 single, \$45. 213-823-1910. B  
Trundel Bed set, provincial maple, \$30. 213-479-5653. B  
Coffee Table, blonde, w/matching corner table, 2 end tables & table lamps, \$45. 213-678-6492. B  
Sewing Machine, antique, treadle-type, \$30. 213-379-4356. B  
Coffee Table, Lane Mfg., oiled walnut, 6' long, \$40. 213-377-9666. B  
Refrigerator, Philco, \$15. 213-374-5133. B  
Stove, G.E. elec., \$100. 213-675-7025. B  
Coffee Table, set, Danish modern, w/2 end tables, 2 lamps, \$40. 213-865-2334. B  
Dinette Set, 5-pc. Daystrom, \$30. 213-371-4919. B  
Freezer, upright, 20 cu. ft., 2 yrs. old, \$90. 805-498-2572. B  
Mattress, king size & twin box springs, \$35. 213-675-7381. B  
Dinette Set, 4 chairs, 5 yrs. old, \$15. 714-524-2837. B  
Corner Table, walnut, & record cabinet, \$30. 213-325-4737. B  
Sofa, 6 1/2', & high-back chair, 2 mos. old, burnt orange, \$160. 213-370-5230. B  
Dressing Table, child's, \$10. 213-325-3724. B  
Bedspread, dble., Italian import, yellow & white cherub pattern, \$35. 213-462-8044. B  
Dishwasher, portable, G.E., white, 1 1/2 yrs. old, \$95. 213-645-5786. B  
Mangle, Ironrite, \$25. 805-527-1824. B  
Vacuum Cleaner, Hoover Dial-A-Matic, 2 yrs. old, \$25. 213-675-0788. B  
Headboard, bookcase type, twin size, & frame, \$20. 213-755-1071. B  
Rug, 9 x 12 gold shag, less than 1 yr. old, \$100. 213-633-3657. B  
Bathinette, \$5. 213-376-4831. B  
China, Wentworth, silver wheat pattern, service for 8, extras, \$75. 213-676-6303. B  
Breakfast Nook, L-shape, w/electrical outlet, pedestal table, gray, \$50. 213-692-6336. B  
Washer & dryer, \$60. 213-677-2789. B  
Crib & mattress, Lullaby & Kantwet, natural finish, \$20. 213-378-2965. B  
Stove, gas, copper-tone, Wedgewood, 2 yrs. old, \$75. 213-343-3579. B  
Beds, twin, mattresses, \$25. 213-831-2878. B  
Bedroom Set, 9-pc., incl. twin box springs & mattresses, \$85. 213-753-7484. B  
**Miscellaneous For Sale**  
Cemetery Lots, 4, fully improved, Terrace of Faith, Rose Hills, \$225 ea. 213-867-0662. C  
Player, stereo, Lear Jet, 8-track, for auto, \$70. 213-830-6163. C  
Acreage, 10 acres, in Oregon Recreational Land, near Klamath Falls, \$2,600. 805-498-2668. C  
Bellyboard, 3/4" redwood stringer, \$20. 213-869-6759. C  
Train Layout, H.O., approx. 60 cars & misc. equipment, mounted on 4'x10' panel, \$85. 213-291-0025. C  
Lens, 1:4/135mm Isconar Gottingen telephoto, \$20. 213-327-4267. C  
Airplane, Cessna 140, all metal, 270 hrs. s.m.o.h., 2 radios, \$2,350. 213-839-6084. C  
Hydroplane, 8'2", w/access. & 10 h.p. motor, \$450. 213-676-9518. C  
Gun Cabinet, holds 7 guns, \$30. 213-378-3055. C  
Amplifier, Gibson Hawk, 2 10" spkrs., tremolo, reverb., \$160. 213-321-4801. C  
Hi-Fi Components, Heathkit, 25 w. amp., F4-FM tuner, \$75. 213-326-5566. C  
Ping Pong Table, set, \$17.50. 213-324-4817. C  
House, 3-bdrm., 2 baths, view, 18'x38' pool, P.V. Pen., \$43,800. 213-377-6029. C  
Chain Saw, 7 1/2 h.p., \$150. 213-532-6109. C  
Lot, 1/2 acre, in Joshua Tree, Calif., all utilities avail., \$3,500. 714-531-3840. C  
Home, 3-bdrm., 1 1/4 baths, f/place, b/wall, sprinklers, enc. patio, 5 min. to Norair, \$3,800 dwn. & assume \$22,800 loan at 6 3/4%, \$26,600. 213-327-8289. C  
Camera, Kodak Instamatic, model 154 for color, w/film, \$22. 213-371-6328. C  
Motor Scooter, Allstate Puch, \$95. 213-377-1074. C  
Home, 4-bdrm. & family rm., 1 1/2 baths, screened-in patio, \$3,100 dn., \$31,000. 213-635-9944. C  
House, 4-bdrm., enc. front & backyard, P.V. Pen., \$42,500. 213-377-9716. C  
Drum Set, Slingerland, w/access., cymbals & covers, \$150. 213-323-7177. C  
Pups, 7 Samoyed, 6 wks. old, AKC reg., males, \$100 ea.; females, \$75. 213-670-5421. C  
Camera, Polaroid 100 & case, \$60. 213-675-729. C  
Train, 10 cars, track on board w/casters, \$50. 213-371-8695. C  
UHF Converter, Blonder tongue, \$10. 213-371-3615. C  
Acreage, 2 acres, in Sand Canyon, lge. oak trees, \$24,000. 213-675-4156. C  
Ham Gear, Motorola 80D series, 2-meter FM transceivers, \$75. 213-641-0609. C

**Miscellaneous For Sale**  
Camera, Swinger Polaroid Land Mod. 20, \$12. 213-328-5655. C  
Golf Clubs, set, Spaulding, Sunday bag & balls, \$40. 213-826-3061. C  
House Trailer, completely furn., at Mammoth Mtn., \$350. 213-545-6114. C  
Cemetery Lots, Inglewood Park Pacific Slope, dble. interment, \$1,100. 213-324-5140. C  
Camper Boat, fits 1960 to 1966 Ford pickup, \$20. 213-534-0840. C  
Lot, 1/2 acre, Apple Valley, w/utilities, \$150 dn., \$25 mo., \$1,995. 213-328-7048. C  
House, Huntington Harbor, corner lot, 3-bdrm., 2 baths, 2,000 sq. ft., bltins, cpts., dps., 4 yrs. old, \$89,500. 213-592-5248. C  
Tropical Fish & equipment, \$220. 213-425-6977. C  
Lot, Lake Elizabeth, 50'x101', lifetime club membership, \$2,500. 213-482-7026. C  
Lot, Lake Elizabeth, paved street w/electricity & water, 10% dn., \$4,150. 805-947-8389. C  
Bar, handmade, semi-circular, walnut finish, w/black formica top, \$150. 213-379-4572. C  
Boat, inbd., 1957 Hemi-Head DeSoto eng., steel trailer, \$900. 213-644-4234. C  
Interest, 1/4, in 1957 Cessna 182, \$1,700. 213-638-7463. C  
Barbell Set, 165-lb., \$25. Box 2101. C  
Trailer Hitch, Eaz-Lift, 600 lb. cap., non-removable head, w/torsion bars & support structure, \$35. 213-429-7879. C  
Riding Boots, size 3 English-made, girl's, w/brown velvet hat, \$50. 213-377-8609. C  
Home, lge. 2-bdrm., English stucco, 3 miles from Northrop, Inglewood area, \$20,950. 213-752-4576. C  
Pistol, Colt .45 Commemoratives Chateaux Therry & Belleau Wood, w/instructions for follow-ons, \$525. 213-675-8617. C  
Surfboard, 9'6" Dewey Weber, \$50. 213-676-0049. C  
TV, Zenith portable, w/cart, 10"x14" screen, \$40. 213-672-4447. C  
Phonograph, RCA stereo, 4-spd. w/diamond stylus, det. speakers, portable, \$50. 213-756-3472. C  
Motorcycle, 1966 Triumph Bonneville, 650 cc, \$900. 213-363-3843. C  
Surfboard, Weber, \$50. 213-645-1075. C  
House, 5-room, heated 15'x35' pool, lge. yd. cemented, b/wall, near Northrop, new roof & cpts., will G.I., \$27,500. 213-679-4778. C  
Sailboat, 28' sloop, sleeps 4, inbd. eng., main, jib, genoa & spinnaker, \$5,000. 213-378-4352. C  
TV, 23" RCA, b&w, console, \$30. 213-421-1300. C  
Trailer, 17' Terry, new int., floor heater, butane/elec. refrig., jacks, \$650. 213-326-9107. C  
Lawnmower, gasoline, \$45. 213-374-4944. C  
Sailboat, Naples Sabot, new mast & boom, dacron sail, fiberglass hull, \$200. 213-439-6432. C  
Stereo System & components, \$200. 714-523-2495. C  
Wig, black, block & case, \$30. 213-327-2447. C  
Vacuum Cleaner, Kirby, recond., all attachments, \$35. 213-675-7403. C  
Keg Bar, Taping, 1/4 keg, Peerless & Golden Gate sys., \$125. 213-375-9815. C  
Home, 5-bdrm., 3-car gar., central a/c, undg. util., 600 sq. ft. brick & redwd. patio, landscaped, sprinklers, fences, dps., near Northrop Ventura, \$38,500. 213-889-8075. C  
Ping Pong Table, 3/4" top, alum. frame w/folding legs, \$20. 213-673-1249. C  
Cemetery Lot, single, Inglewood Park, Park View sec., \$450. Box 2102. C  
Accordion, black, Castle semi-pro, 120 bass, \$175. 213-324-6770. C  
Boat, 14' glass, 25 h.p. elec. motor, canvas top, trailer, \$600. 213-328-1080. C  
Cement Mixer, 1/2 bag, elec., \$40. 213-374-7760. C  
Sailboat, 12' glass, dacron sails, anodized mast & boom, \$395. 714-592-5039. C  
Wedding Dress, Cahill gown, ivory brocade, chapel length train, empire style w/veil, \$60. 213-679-4241. C  
Camera, 35mm, Canon fp 1.2, interchangeable lens, w/leather case, \$100. 213-884-1892. C  
Typewriter, Remington elec., w/hvy. duty stand & pad, \$215. 213-676-3050. C  
Pups, German shepherd, \$35. 213-675-3725. C  
Mini-Bike, 8 h.p. West Bend, \$135. 213-393-5649. C  
Sailboat, Cal 20, complete, \$2,350. 213-375-4891. C  
Sink, for bath rm., round, w/pop-up faucet set, \$15. 213-675-7316. C  
Pups, Scottish terrier, 5 wks. old, AKC reg., \$125. 213-671-1660. C  
Torches, oxygen-acetylene & regulators, \$75. 213-328-2932. C  
Motorcycle, 1967 Honda 305 Scrambler, many extras, \$600. 213-371-0194. C  
TV, Admiral portable, 19" b&w, w/UHF, \$50. 213-867-5809. C  
Home, tri-level w/pool, cabana, 3-bdrm., 2 baths, det. gar., fenced, landscaped, 15 min. to Norair, \$31,500. 213-372-6830. C  
House, 2-bdrm. & den, det. gar., lge. fenced yd., Culver City, \$26,950. 213-883-0430. C  
TV, 1967 Magnavox, 24" b & w, remote control, \$150. 213-696-9438. C  
Tuner-Amplifier, Pilot, FM multiplex, 70 w. per channel, solid walnut cabinet, \$125. 213-823-1952. C  
Typewriter, Remington std., pica type, \$45. 213-754-6146. C

**Miscellaneous For Sale**  
Home, 4-bdrm., 2 baths, f/place, patio, 2 1/2-car gar., bltins, close to 3 freeways & beach, terms, \$26,500. 714-962-0062. C  
Acreage, 5 acres, Antelope Valley, \$49 dn., \$49 mo., no int., \$4,900. 213-378-1026. C  
Lot, Green Valley Lake area, 60' x 275', lake share incl., \$3,500. 213-833-4191. C  
Radial Arm Saw, Sears-Craftsman, 9 1/2", homemade stand, \$65. 213-676-0400. C  
Outboard Motor, 20 h.p. Mercury, 10 hrs. use, w/17' boat & trailer, \$250. 213-542-3990. C  
Snowmobile, 1957 Polaris Colt 140, 15 h.p. 300 cc Hirth eng., trailer, \$800. Box 2103. C  
Engine, 368 cu. in. Lincoln, rebilt., & Fordomatic trans., access., \$500. 213-676-3095. C  
Skis, Head Standard, w/bindings, 185 cm long, \$60. 213-794-6340. C  
Piano, spinet, antique fruitwood finish, \$750. 213-377-4749. C  
Slide Magazines, Airequipt circular, for Airequipt slide projectors, \$1.25 ea. 213-325-9492. C  
Eowling Ball, bag, glove & men's shoes, size 7 1/2, \$24. 213-377-3805. C  
Motorcycle, 1964 Yamaha, 80 cc, \$215. 714-494-6940. C  
Pistol, 9 mm auto., holster & extra clip, Astra model 600/43, \$50. 213-785-6142. C  
House, 3-bdrm., fam. rm., 1 1/4 bath, screened patio, 5 min. from Northrop, \$27,500. 213-677-0540, 213-677-6388. C  
House, 3-bdrm., 1 1/4 bath, cpts., dps., corner lot, block fence, patio, det. dble. gar., No. Torrance, \$27,000. 213-371-1935. C  
Home, Palos Verdes Pen., 4-bdrm., 2 baths, 8 yrs. old, G.E. 5 1/4% financing, \$38,000. 213-676-5425. C  
Truck Engine, 1955 Chev., 6-cyl., complete, \$75. 213-838-5810. C  
Boat, 21', 90 h.p. Johnson outbd., marine ply/glassed, Walstrong trailer, \$1,750. 213-676-4050. C  
Mini Like, 6 h.p. West Bend eng., \$95. 213-378-5855. C  
Shotgun, o/u, 28" mod. & full, \$160. 213-532-7846. C  
Radio, for VW, Bowman 5 pushbutton AM, \$30. 213-327-9338. C  
Motorcycle, 1967 Triumph T100C, 500 cc Scrambler, \$850. 213-545-3972. C  
Motorcycle, 1966 BSA, 650 cc, \$800. 213-327-3415. C  
Luggage Rack for VW only, \$10. 213-860-3450. C  
Encyclopedia, Americana, 30 vols. & children's books, 10 vols., bookcase, 3 yrs. old, \$150. 213-632-3623. C  
Camper, 1960 Romer cabover, 10', butane refrig., sleeps 6, \$600. 213-457-9186. C  
Xylophone, Deagan, \$125. 213-329-5364. C  
Playpen w/pad, \$15. 714-529-4788. C

**Wanted to Buy**  
Jaguar roadster, 1955 or '56, any condition. 714-772-1975. D  
Refrigerator, in good condition, up to 5 yrs. old, from \$50 to \$100. 714-637-3265. D  
Doghouse, medium size. 213-320-6685. D  
Refrigerator, in good condition, w/lge. freezer compartment, up to \$50. 714-548-0308. D  
Shop Manual for 1963 or 1964 Pontiac. 213-756-9697. D  
Lathe, jeweler's, collets & accessories. 213-377-2200. D  
**For Trade**  
Chevrolet, 1962 V-8, 2-dr. h/top, r/h, p/s, trade for a VW bus. 213-671-0694. E

**Free (To Be Given Away)**  
Antenna, for ham radio, approx. 50' tall. 213-276-1336. F  
Dog, German short-hair pointer, 2 yrs. old, to good home w/children. 213-634-4766. F  
Kittens, black & white, short hair, 8-wks. old. 213-377-3180. F  
**Rentals Offered**  
Working Woman wanted to share 2-bdrm. house, newly furn., Manhattan Bch., \$85 & 1/2 utils. 213-372-6371. G  
Apt, 2-bdrm., furn., cpts., dps., lge. rms., 4 short blocks to Northrop, incl. all utils., \$165 mo. 213-833-2512. G  
House, 3-bdrm., family rm., f/place, 1 1/4 bath, bltins, close to Norair, \$250. 213-676-3057. G  
Man to share lge. house, furn., w/single owner, Huntington Bch., \$150 mo. 714-962-4202. G  
Apt, 1-bdrm., cpts., dps., bltins, all elec., 5 min. to P.V., 20 min. to Hawthorne, \$110, unfurn.; \$130 furn. 213-375-9397, 213-375-2091. G  
House, unfurn., 2-bdrm. & den, adults, no pets, Inglewood, \$150. 213-677-0621. G  
House, 2-bdrm., 2 miles from Norair, avail. November 1, \$140 mo. 714-595-3013. G  
Apts, unfurn., near ocean, cpts., dps., bltins, 3-bdrm., 2 baths, \$180; 1-bdrm., \$125. 213-372-8835. G  
Cabins, Green Valley, \$25 w/end; \$45 wk. 213-324-0649. G  
Cabins, Lake Gregory & Crestline, sleep 6, \$25 w/ends; \$60 wk. 213-391-2040. G  
Cabin, Big Bear Lake, sleeps 9, \$25 w/end. 213-867-0662. G  
House, cpts., gar., fenced rear yd., Hawthorne, \$145 mo. 213-325-5705. G

**Rides and Riders**  
**Rides Wanted**  
7 a.m. — 3:42 p.m.  
Arlington & Carson, Torrance. N. A. William-son, 213-328-6839.  
From Huntington Beach Area. D. E. Rowe, Norair ext. 4624, 714-958-4120.  
7:24 a.m. — 4:06 p.m.  
Moorpark & Thousand Oaks, Newbury Park. Domenica Rochelle Licata, Mariposa ext. 4086, 213-754-4510.  
8 a.m. — 4:45 p.m.  
Wilshire Blvd. & Selby, Westwood. Celia Alper, Norair ext. 1034, 1035. 213-474-5644.  
**Rides Offered**  
7 a.m. — 3:42 p.m.  
From Huntington Beach Area. D. E. Rowe, Norair ext. 4624, 714-968-4120.  
**Rentals Wanted**  
House, unfurn., 2 or 3 bdrms., 1 1/2 baths, cpts., adults, \$175 mo. 213-323-1580. H  
**Child Care**  
Child Care offered, ages 1 1/2 & up, fenced yd., hot lunches & snack, close to Northrop. 213-676-8915. I  
Child Care offered, Hawthorne area, my home, during day. 213-676-7338. I  
Child Care offered weekly, prefer ages 1-3. 213-374-6857. I  
Child Care offered, my home, fenced yd., toys, meals. 213-542-2795. I

**Personals**  
Anyone witnessing rearend collision on El Segundo at Vermont Sept. 11 at 6:30 A.M. please call ext. 1825. L  
Working Girl wanted to share my home, lge. bdrm., kitchen privileges, in Garden Grove. 213-539-0339. L  
I wish to express my sincere thanks to all concerned with memories of my convalescence recently. C. E. DONALDSON. L  
I wish to express my deepest appreciation to my friends who made my retirement from Northrop such a happy time & a lovely thing to remember. Thank you. POLLY CUENOD. L  
I wish to thank all my friends at Northrop for their cards & expressions of kindness at the recent loss of my mother. RORI NORDHAUSEN. L  
I wish to thank all my friends, & associates for their kindness to me on my retirement & gifts. MARGARET C. PAULOS. L  
Thanks to my wonderful friends for the many cards, flowers & phone calls during the aftermath of my "Toyota Travels." Looking forward to being home. PAT GALLAWAY. L  
Sincere thanks to all my Northrop friends for their many cards & kindness at the recent loss of my father. CARMELA MONIELLO. L  
My sincere thanks to my many friends for their expressions of sympathy in the recent loss of my wife, Leona. W. G. WILLIS. L  
I want to thank my many friends at Northrop Anaheim for the radio which I have received as my going away gift. EVELYN KOVACHEK. L

**For Sale or Trade**  
TV, 1967 Motorola, 16" portable, \$75 or trade for AM-FM tuner of comparable quality & value. 213-370-9800. M  
Rug, 12'x13', beige wool, w/pad, \$55 or trade for vacuum cleaner or maple coffee table. 213-644-7179. M  
Pistol, pr., Western 45 cal. Colt, & quick-draw holsters, \$200 or trade for motorcycle. 213-531-9026. M  
Organ, Capri, elec., 24-chord, 37-key keyboard, \$30 or trade for small wooden desk. 213-376-3533. M  
Mattress, twin size, foam rubber, never used, \$27.50 or trade for 2" micrometer. 213-329-6728. M  
Pickup, 1964 Ford, 1/2-ton, V-8, r/h, \$1,150 or trade for equivalent value Volkswagen, Toyota or Datsun. 213-377-1404. M  
Radio, Motorola FM, 12 volts \$40 or trade for old or modern revolver 32 or 38 cal. 213-292-6360. M  
Range, Thermador bltin-type, elec., complete, \$50 or trade for pistol, shotgun or big bore rifle. 213-322-5136. M

Barber Shop Song Fest At Reseda

"Those Wonderful Days Gone By," a program of barber shop quartet and old time chorus singing, will be recalled for an evening on November 2 in Reseda.

The Reseda Valleyaires, including two Northrop Ventura employees, will present the program.

Carey Buhler, Parawing project engineer, and John Lawrence, Design supervisor, are members of the Reseda Chapter of the Society for the Preservation and Encouragement of Barber Shop Quartet Singing in America.

Tickets for the performance are available from Mr. Buhler, ext. 532 or Mr. Lawrence, ext. 685. Prices are \$3 and \$2.50.



## Color Slides of 747 Rollout Highlight Gasich's Report

Approximately 600 Northrop Ventura employees attended five color slide showings this month of the Boeing 747 rollout, presented by Welko Gasich, vice president and Ventura general manager.

Mr. Gasich provided his own narration for the slides which he took while attending the rollout ceremonies at Everett, Washington, last month.

The purpose of the 25-minute presentations was to share with as many employees as possible the experience of witnessing the for-

mal presentation to the public of the world's largest commercial airliner.

Mr. Gasich stated that Boeing officials were well pleased with the quality of the Northrop Ventura production of the wing fairing on the first plane.

Some of the presentations were scheduled for production, engineering and support groups; others were given for second shift employees; and two for open attendance.



COLOR SLIDES of the 747 rollout at Everett, Washington, were seen by several groups of Northrop Ventura employees in presentations narrated by Welko Gasich, vice president and

Ventura general manager, who also took the pictures. Mr. Gasich congratulated employees for a wing fairing production job, the quality of which was lauded by Boeing officials.



NEW APOGEE CLUB MEMBER Stephen Downey (left), now 747 program administrator, receives his certificate of membership from H. E. Riggins, vice president and assistant general manager at Ventura. The honorary organization was recently created to recognize outstanding employee achievement on the Apollo program. The club now has more than 25 members.

## Ventura's MQM-74A Drone Set for Display at Pt. Mugu

Northrop Ventura's MQM-74A target drone—now being produced and tested for the U.S. Navy—will be on display at the annual Navy Space Fair, to be held November 9 through 11 at Point Mugu.

The turbojet-powered drone will be featured with other aerospace products as part of the Aerospace Exhibit section. Two hangars, filled with computers, space equipment, electronic displays and missiles, will be on display to the public.

Other features will be the Army's Golden Knights parachute team, the Navy's Blue Angels—a six-man aerobatic team—and a carnival midway with rides and games.

The Navy calls the program "the largest air show in America." Last year, 195,647 attended. The show is sponsored by several Navy organizations, including the Pacific Missile Range, the Naval Missile Center, the Naval Air Station and the Navy Astronautics Group.

An aerobatic display will feature a wingwalker who stands atop a crop-dusting plane, World War II aircraft, motion picture stunt pilots and the Navy's Blue Angels.

Air shows will be held at 11 a.m. and 2:30 p.m. all three days of the fair. The grounds will be open from 9 a.m. to 5 p.m. Admission and parking are free. Grandstand seating is 50 cents.

Additional information may be obtained by calling 805-982-8094.



A SPACE-SIZED POSTCARD is the answer of Doug Finch, Ventura commercial artist and Reproduction department's Evelyn Marsden, to the appeal of Apollo astronauts to "keep those cards and letters comin' in." It was Evelyn's idea and Doug's artwork. The card has been signed by employees connected with the design engineering, manufacturing and production of the Northrop Ventura Earth Landing System. Since there is, as yet, no air mail delivery in space, it will be delivered to NASA's Manned Spacecraft Center in Houston to await the return of the astronauts.

### IN COMPETITION

## Hap Haszard's Lemon Pie Is a Winner

Not since Betty Crocker or the Pillsbury Bake-Off has a finer lemon meringue pie come along than that one turned out by H. A. "Hap" Haszard this month.

Especially when you consider that "Hap" is chief project engineer for the Mobile Anti-submarine Warfare Target program and not at all akin to the kitchen.

Yet, he baked this beautiful lemon meringue winner, his first pie try, at the recent Ventura County Fair and walked off with first place in the men's lemon pie baking contest.

By the time the judges were finished tasting and testing, there was little left of "Hap's" winning

entry, so he baked another at home the next day just to prove that his victory over 11 other contestants wasn't a fluke.

One of the 11 was a Navy captain and long time friend of "Hap's." "It's really the reason I entered the contest in the first place, just to surprise my friend," said "Hap." "I was amazed when I found myself entered, and even more amazed to discover I had won."

Nevertheless, with but a few

superb pies to his credit, "Hap" is turning in his spatula. He has announced his retirement from long hours over a hot oven and scuttled rumors of olympic lemon meringue ambitions.

"Hap" feels that his success as a piemaker is not necessarily an art. "If you can follow a blueprint or a schematic, you can cook," maintains "Hap."

In the future, he plans to follow more blueprints and schematics than recipes.



LEMON MERINGUE PIE baked by Northrop Ventura's H. A. "Hap" Haszard, chief project engineer for the MASWT program, won this trophy and first place honors at the Ventura County Fair. "Hap" shares a follow-up version with Nancy Smith, Systems Assurance secretary.

### GUIDE

(Continued from page 1)

In addition to Mr. Johnson's General Safety Committee, approximately 25 people are directly involved with the administration of safety at Ventura. Reporting to the General Safety Committee are four special subcommittees on:

- (1) special materials and devices, Al Binsacca, chairman;
- (2) supervisor's safety, Bill Lang, chairman;
- (3) workman's safety, Ralph James, chairman; and
- (4) fire inspection, Charles Simmons, jr., chairman.

"Hopefully," said Mr. Johnson, "the issuance of the Employee's Safety Guide will not only contribute to our employees' safety awareness but will facilitate the efforts of all safety subcommittees and the General Safety Committee."

### Management Club Sets Dinner Dance

The thirteenth annual Northrop Ventura Management Club dinner dance has been scheduled for November 2, according to Ron Lancaster, club president.

The evening will feature a social hour at 7:30 p.m., dinner at 8:30 p.m. and dancing from 9 p.m. to 1 a.m. to the music of Carroll Wax and his orchestra. Also, there will be two portable Sony television sets given away as door prizes.

Mr. Lancaster has stressed that there are a limited number of tickets available on a first-come, first-served basis. Barbara Fuller in Management Systems (ext. 392, 362) has the tickets, priced at \$6 a couple.

The setting for the occasion will be the Woodland Hills Country Club, 21150 Dumetz Road in Woodland Hills.



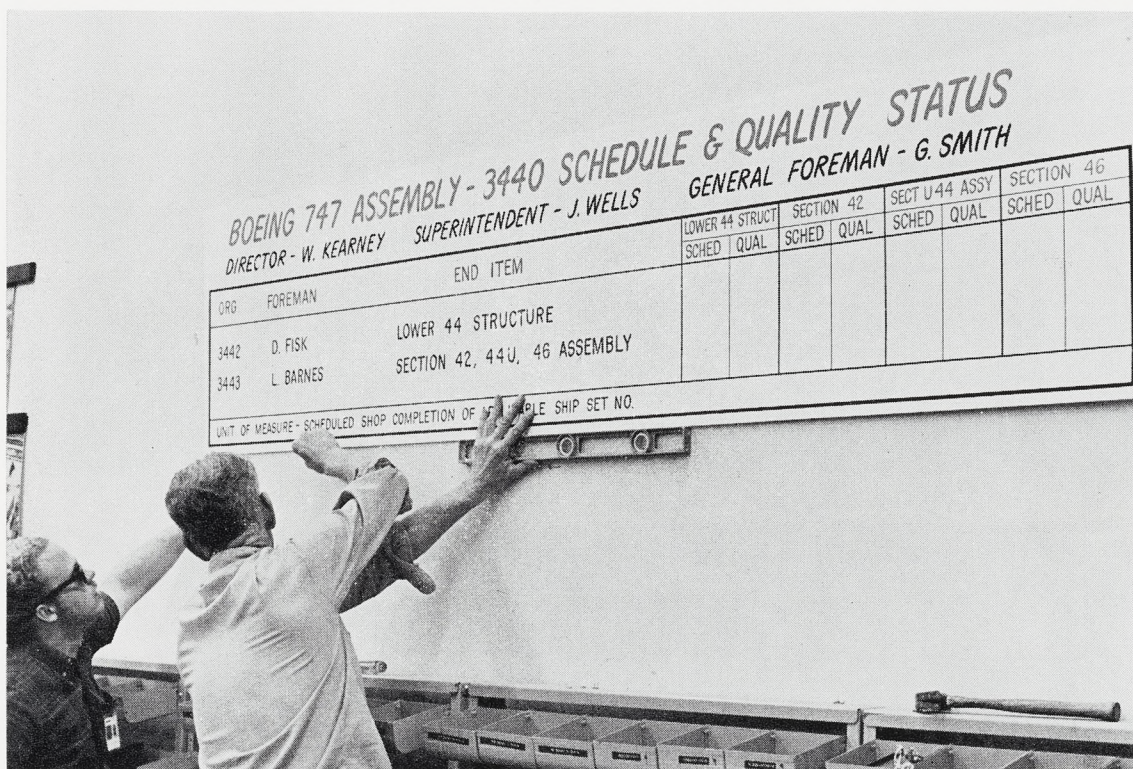
# NORTHROP NEWS

NORTHROP VENTURA

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November 6, 1968



**MOTIVATION IN MOTION** at Northrop Ventura took a new turn last week as on-schedule performance boards, installed by Maintenance personnel David Shewmaker (left), and Norbert

Emery, went into wide use throughout the division. More than 30 such boards in appropriate locations will help keep employees informed on quality and progress of production.

## BOARDS GO UP

### Charts Help Employees Know Progress

On-schedule performance boards — another phase of the continuing motivational program — have been installed in numerous work areas at Northrop Ventura.

Since their utilization began last week, the boards have been visually reflecting the employee progress on all Ventura programs.

By means of brightly colored disc markers, employees can follow their achievements on a day-

to-day or week-to-week basis in areas such as Engineering, Manufacturing, Quality Assurance, Shipping and Receiving.

"The purpose of these performance boards," says motivational committee chairman Tom Tapper, "is to maintain our high level of workmanship and pride in turning out on-schedule quality products. The employees now know at a glance their organization's position with relationship to schedul-

ing."

The motivational committee is composed of representatives from Production, Engineering, Quality Assurance, Master Scheduling and Industrial Relations.

### First Female Shop Teacher Starts Class

A senior assembly bonder in Ventura's Plastic Fabrication group has become the first female plastics shop instructor in the State of California.

Mary Lanning, a professional plastics worker for 15 years, began teaching morning classes last week at Buena High School in Ventura. By special arrangement with the Board of Education and Northrop Ventura's Training section, Mrs. Lanning will instruct two sections of Buena High seniors in "Fundamentals of Reinforced Fiberglass."

Each group meets daily for two hours. In the afternoon, Mrs. Lanning returns to her new duties at Northrop Ventura; training newly hired plastics personnel and re-training present workers.

The Buena High School classes are not new. Al Robinson, Training representative, has been conducting the pilot course since September 1967. His students have learned plastics fundamentals so well that 20 of the graduates are now employed full time in Northrop Ventura's Plastic Fabrication section.

Mrs. Lanning, whose husband, "Mick" Lanning, is foreman of Ventura's Metal Spray department, has been with Ventura almost three years. Her career in the industry covers all phases of plastics, including acrylics and fiberglass.



**CALIFORNIA'S FIRST** female plastics shop instructor is Ventura's Mary Lanning, who does plastic layup on this T-38 fiberglass duct and other laminated parts. Observing her technique is Al Robinson, Training representative, who inaugurated the course which Mrs. Lanning is now teaching at Buena High School in Ventura.

## NASA, North American Commend Apollo Efforts

Northrop Ventura employees have been commended for helping to make the recent Apollo 7 mission the success it was.

Congratulations came from Thomas V. Jones, president; Welko E. Gasich, vice president and Ventura general manager; from the National Aeronautics and Space Administration and from Dale D. Myers, vice president of North American Rockwell Corporation, Space Division, builders of the Apollo 7 command service module.

In a direct followup to the prompt praise of Mr. Jones and Mr. Gasich, Mr. Myers referred to the "great success" of Apollo 7 as he told Mr. Gasich and Wes Steyer, Apollo program manager at Ventura, "your firm's contribution to this success as a key member of the Apollo team is most highly commended. I especially wish to thank the many fine people of your organization whose efforts assured today's (October 22) success."

"We eagerly look forward to the flight of Apollo 8, planned for December of this year. Based on the performance of Apollo 7, we expect that Apollo 8 will equal or exceed today's (October 22) success. My thanks again to you and your people for doing such a great job."

In a personal message from

Mr. Jones, he asked Mr. Gasich to "tell your people that all of Northrop is very proud of Ventura's superb performance in once again bringing back America's astronauts safely and smoothly."

Mr. Gasich made the following in-plant announcement to all Ventura employees:

"As a result of the successful recovery of the Apollo 7 vehicle, I would like to compliment the Northrop Ventura team for its part in this spectacular space mission. In addition to my thanks, the president of our company has extended his congratulations to Wes Steyer and his Apollo team."

"Earlier this afternoon (October 22), I received a telephone call from the NASA Manned Spacecraft Center in Houston and they, likewise, extended their ap-

(See APOLLO, page 6)

## CHRISTMAS PARTY IN PLANNING STAGE

With Thanksgiving three weeks away, already plans are being made for a Northrop Ventura Christmas Party.

The date is December 14 from 10 a.m. to noon.

Festivities will take place outdoors in the parking lot and include three acts of entertainment. Santa Claus will appear with his helpers with free candy canes and surprises for the children.

The entire area will be adorned with seasonal decorations and Christmas trees. There will be free coffee, cookies, ice cream and punch.

Other details are being worked out by Johnny Via and a special events committee.



**A QUARTER-CENTURY MEMENTO** was presented to former Northrop Ventura employee Ruth Payne by H. E. Riggins, Jr., vice president and assistant Ventura general manager. Mrs. Payne returned as a visitor for the day to receive her photo album prepared by the Photographic and Art departments. She retired recently after working as a packaging specialist in Manufacturing.



## NORTHROP NEWSMAKERS

**Raymond C. Lowry**, Nortronics, will discuss the application of automatic testing devices to electronic training systems in a paper prepared for the Third Naval Training Devices Center Industry Conference at Orlando, Florida, November 19-21.

Electronic training devices, such as aircraft simulators and computers for simulating certain combat problems, have become so complex that maintenance is now a problem. Automatic testing devices have not been extensively used and Mr. Lowry's paper discusses how this can be advantageously done.

Nortronics TEAMS is an example of a system that would be applicable to such automatic testing of training devices.

**Rick Hachten**, son of **R. A. Hachten**, resident Corporate Public Relations manager at Norair, has been elected to Beta Gamma Sigma, national honorary scholastic fraternity, Graduate School of Business Administration, UCLA.

**Art Eskelin**, Norair, presented a paper titled "Machining Titanium" at a November 2 Machining Seminar held at San Diego State College under sponsorship of ASTM Chapter 189.

**K. C. Wu**, Norair, has authored an article titled "Electrode Indentation Criterion for Resistance Spot Welding" for publication in the October issue of Research Supplement, the Welding Journal.

**Tom Brazil**, Norair, has represented Northrop Corporation at a Department of Defense-sponsored Northrop Zero Defects and Motivational Symposium hosted by the U.S. Navy October 29-31 in San Diego.

**Northrop** family members are invited to take part in an All Nations Foundation night at Disneyland from 4 p.m. to midnight November 10. Tickets are \$3.75 each at Northrop Personnel Activities outlets.



**A WINNER**—Wilshire Boulevard at dawn, as only an early arrival to work would see it. Kenneth Rogers, a Beverly Hills resident, took the picture which captured first place in the Beverly

Hills Chamber of Commerce First Annual Photography Contest. Northrop Corporate headquarters building can be seen just under signal light in foreground.

### RENOVATED QUARTERS

## NDP Seeks Help In Locating Programmers

Northrop needs computer programmers and Roger M. DiJulio, director of Planning and Control, Northrop Data Processing, has requested employees to ask their friends about joining the company.

"You may do a favor both to your friends and yourselves," Mr. DiJulio said. "They will find Northrop a splendid place to work and you may share in the Referral Award program for recommending them," according to Tak Yamashita, director of NDP Programming. "Awards of from \$100 to \$200 are being made to Northrop employees who bring in new computer programmers and senior programmers, respectively. We have found that Northrop people are our best means of attracting the type of employees we need," Mr. Yamashita added.

Mr. DiJulio pointed out that working conditions are excellent. A renovation program has just been completed in the programming office area at Hawthorne, under over-all direction of P. O. Wierk, manager of Northrop Data Processing.

The principal reason for the renovation was to provide working conditions comparable to the best in the aerospace industry. A great assist to concentration and productivity has been provided, according to Ed Piper, director of NDP Equipment Systems Plan-

ning, under whose immediate supervision renovation was planned and carried out.

Among the innovations are the elimination of many walls to provide better visibility between offices, a translucent ceiling for improved diffused lighting, controlled ventilation and air conditioning, and special sound deadening measures, resulting in unusually quiet work areas.

A computer terminal and conveniently located processing fa-

cility afford assistance to programmers and their development work. For this purpose, an IBM 360/20 computer and related equipment are also housed in the renovated facilities.

Other special features are new training rooms with audio-visual aids for programmer training, project areas for team efforts by programmers and system designers, and grouped supervisory offices on the periphery of open working areas.



**RENOVATION OF NDP quarters in Hawthorne** has provided quiet, comfortable surroundings. Partitioned and carpeted individual offices and convenient processing area below are typical. NDP seeks the aid of all Northrop personnel in locating and hiring computer programmers. Referral Awards of \$100 and \$200 may be earned in helping fill NDP personnel requirements.



**VISIT NORAIR**—The Southern California Chapter, American Society of Zero Defects, visited Norair recently for a tour and briefing by Dave Petersen, acting director of Management Systems.

## Telephone Tieline Network Links Northrop Facilities

Another step in a continuing modernization of Northrop's internal telephone communication system was initiated last week when Norair's Palmdale facility activated a new automatic dial telephone system.

Palmdale is the final major facility to join what is now a Northrop-wide tieline telephone network in Southern California fully equipped with automatic dialing capabilities.

This network now includes the Corporate office, Northrop Ventura, Nortronics Palos Verdes, Anaheim and Hawthorne, and Norair's main Hawthorne complex, plus Santa Fe, Torrance, Edwards AFB and Palmdale facilities.

Callers throughout this network may now reach Palmdale num-

bers without going through an operator. From Norair Hawthorne they will dial 7-6, then a three digit number for individual Palmdale stations. Elsewhere in the network, dial 7-7-6, then the Palmdale extension desired.

Palmdale facility will retain an attended switchboard which may be reached by dialing either 7-6-0 or 7-7-6-0. The switchboard operator will page individuals only if they can not be reached by direct dialing.

### CALLING MISSILEERS

## Snark Veterans to Meet

The annual Snark celebration will afford veterans who worked with the first intercontinental missile an opportunity to renew old acquaintances.

The Snark reunion will be held Saturday, December 7, at a private club at 5107 East Ocean Boulevard, Long Beach. Festivities begin at 6:30. There will be a prime rib dinner followed by dancing to a live band.

Early in 1950 Northrop assigned a group of employees to Holloman Air Force Base, New Mexico, to test the Snark. Two years later the program was trans-

ferred to Cape Kennedy, Florida. The original Northrop test group is now scattered throughout the aerospace industry from San Francisco to San Diego as well as at all Northrop facilities throughout the U.S., according to a spokesman for the celebration.

The reunion has been held each year since 1956.

Any person who was associated with the test base group who has not received a direct invitation is urged to contact either H. I. Johnson, San Gabriel, phone 286-7345 or H. J. Zimmer, Long Beach, phone 434-2781.

### RECREATION CLUBS HOLDING ELECTIONS

Northrop Recreation Clubs are in the process of conducting their annual elections of NRC commissioners at all facilities.

Details involving these elections, including the exact times and dates for each, are available through Personnel Activities or on NRC bulletin boards.





THE BEAUTIFUL LOS ANGELES MUSIC CENTER

## Northrop Architectural Systems Adds Unique Capability to Product Lines

Generally speaking, the most well-known Northrop technologies center on aircraft, electronics and communications. However, there is a part of the corporation which concerns itself primarily with the application of science to an older activity: architecture.

Construction technology is the scientific lifeblood of Northrop Architectural Systems, a wholly owned subsidiary of Northrop. Since joining the Northrop family, NAS has increased its share of the building market, and also expanded its product capabilities.

Formed through the consolidation of three firms acquired by Northrop, NAS is a dynamic business devoted to an area unique to the corporation: Architectural Products to Build the Face of the City.

For example, the Los Angeles Music Center Memorial Pavilion and the Department of Water and Power Building are enclosed by NAS curtainwalls. Curtainwalls are nonbearing exterior wall systems.

This is only one product of NAS. NAS is the largest U.S. manufacturer of sliding glass doors.

Other major lines include windows, storefront systems, entrance doors, architectural sun screens, and small multipurpose buildings. NAS also has a Special Projects Division.

NAS products are manufactured and sold by licensees throughout the Free World. As an example, licensees have supplied architectural aluminum for Hilton Hotels from Zambia to Tahiti.

Hand-in-hand with an emphasis on taste goes an equal concern for quality at NAS. Its products, for all their beauty and appeal, are nevertheless tough and reliable.

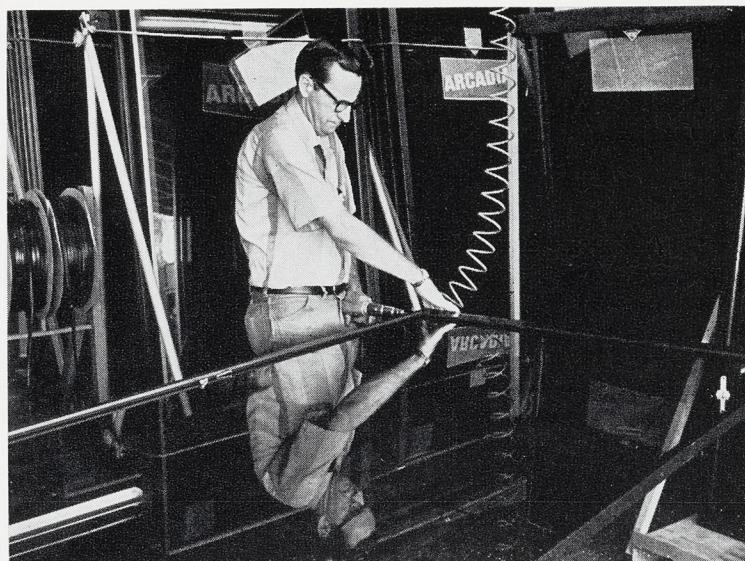
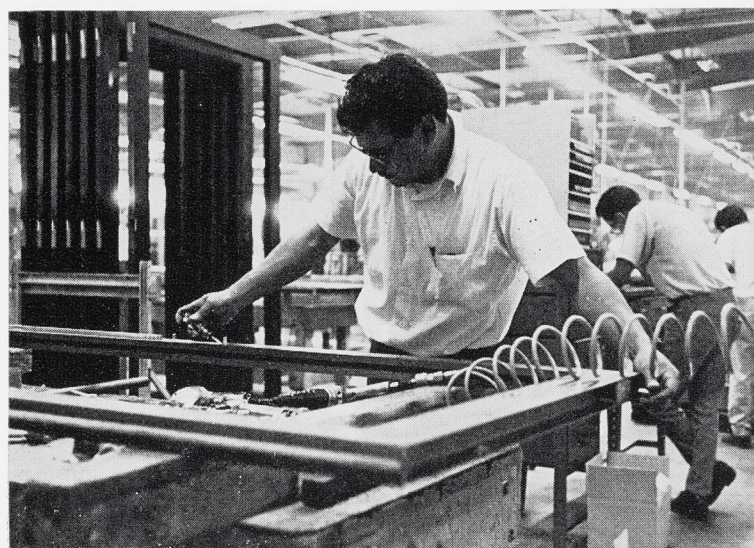
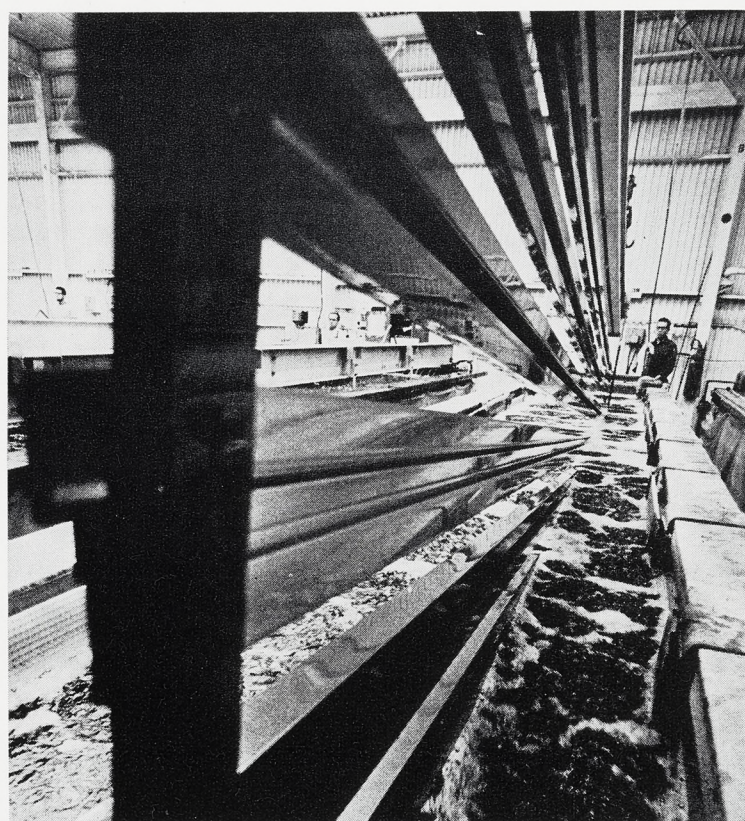
Moreover, the Special Projects Division has manufactured fixtures and numerous tools for the Norair Division 747 line.

The photographs accompanying this article, taken at the City of Industry plant of NAS, illustrate production efforts which have built the NAS reputation. All NAS facilities (Mountain View in California, Skokie in Illinois) have established Northrop firmly in a new product area, while adding to its already fine name for craftsmanship.

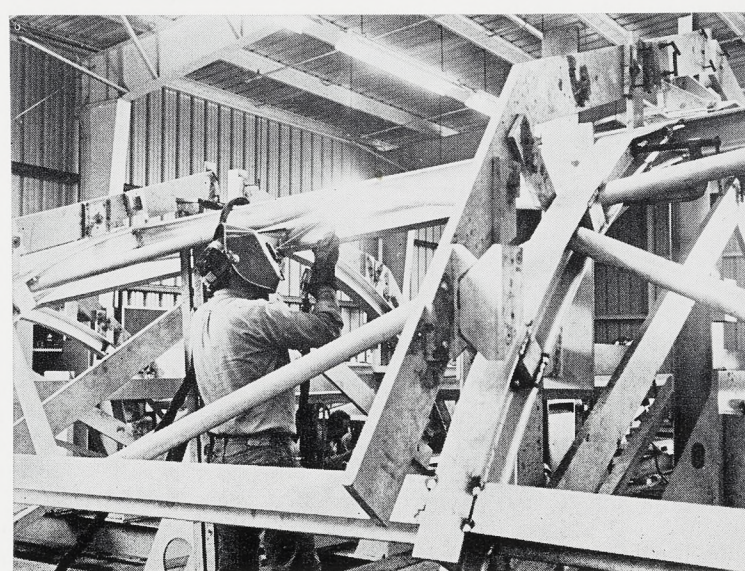


*NORTHROP ARCHITECTURAL Systems is the nation's largest manufacturer of sliding glass doors and also makes a wide assortment of items for building purposes. Stocks (above) at NAS's City of Industry site feed hungry assembly lines. Long string of materials (right)*

*move through treating tanks. There are 15 tanks, 2 overhead cranes serving them at NAS. Oscar Santa Cruz (below, left) installs weather seals in custom-made glass door. NAS customizes many of its products to specific jobs or purposes.*



*Finished storefront kits (above) are checked by Manual Estrada prior to shipment to customer as ready-to-install hardware. Many NAS products are in use around the world. Finished sliding glass door (right above) mirrors Robert Van Gordon as he fastens framework for hotel curtainwall project. Storage area (left) houses thousands of feet of extrusion stock. James Strickland removes stock. The Special Projects Division of NAS handles many types of assignments. Typical is the production of shipping fixtures (right) for the Boeing 747 jetliner program. Charles Belgrade makes one of approximately 500 welds required for each unit.*





## WHAT DO YOU THINK?

### Have The Medical Research Reports Affected Your Smoking Habits



Mr. Balaszi

#### Frank Balaszi, Potting Room, Ventura:

Not at all. But, I only smoke cigars. I tried cigarettes once but I just didn't see anything in them. There's nothing like a good cigar, you know.

#### Millie Guolo, secretary, Nortronics Anaheim:

No, because I quit smoking six years ago. I think the early publicity had something to do with it. Also, there was the money and the odor. But I guess common sense had more to do with it than anything else. Now if I could get my husband to follow my example . . .



Mrs. Guolo



Mrs. Pittman

#### Shirley Pittman, electronic assembler, Ventura:

No, because I haven't smoked since I was a teenager and it was a fad. My reason for not smoking is not really a good one. I just can't stand the smell of smoke.

#### Dan McKennery, jr., Transportation, Norair:

No, I've been smoking since I was 17. They don't bother me one way or the other. I smoke about a pack a day.



Mr. McKennery



Mr. Shaughnessy

#### Tom M. Shaughnessy, Finance, Nortronics Palos Verdes:

The only effect the medical reports have had for me is that I smoke just as much and worry more. I tried to quit once on my doctor's orders, but I got so irritable that I decided if I wanted to keep my job, my wife and son, I had better start puffing again.

#### Evelyn Aitken, secretary, Norair:

It hasn't affected my smoking habits because I wouldn't touch cigarettes. Neither my husband nor I or any of our families have smoked. I discourage my friends from smoking because I heard that each cigarette shortens your life by two minutes. Besides, it's not at all ladylike.



Mrs. Aitken

## SCHOOL COMMENDS OTTO DECKER

Otto Decker, Nortronics test engineer, has received an award for outstanding voluntary community service because he had time for clocks and boys.

The Willowbrook School District presented the award to Mr. Decker for conducting a weekly class in clock repairing for boys in the Carver Elementary School, El Segundo.

Mr. Decker volunteered to conduct the class without pay because as a boy he worked with clocks in a jewelry store and remembered his own fascination with their wheels and gears.

"The boys are really interested," he reports, "and it is a help to them. It is something they could use as a trade. Also working with

small parts is excellent training for future work in any kind of assembly. Then, they can also get their own clocks repaired. Recently we worked on an antique mantle clock that must have been at least 50 years old."

Mr. Decker is not the only Nortronics employee who is assisting the school, according to Mrs. Hannah S. Moore, the school PTA Awards chairman. Seven others assisted in making the awards program possible. They are D. D. Diem, foreman; Mrs. V. L. Lund and Mrs. Carrie Matthews, stockroom clerks; Mrs. E. F. Sullivan, jr., Test; Albert Page, Maintenance; Mrs. Hellen Campbell, IBM operator; and Lola Davis, timekeeper.

## HE 'HOT SHOES'

### Trophies Show Ted Judge's Cycle Style

One of the "hot shoes" around motorcycle race tracks near Corona, in the Simi Valley and at Victorville is a Ventura project engineer.

You'd never think, seeing him at work in the Engineering building, that Ted Judge would be "popping wheelies" and clearing jumps with all rubber off the ground on a Sunday afternoon. But, it's true.



Mr. Judge

Ted is a motorcycle rider par excellence and has trophies and a long string of wins to prove it. In 1963, Ted collected 42 first and second place wins for his best year so far. In the small bike class of over 2,000 riders he placed fifth in the American Motorcycle Association's Southern California District 37. "That was my year, the peak of all the effort and excitement came then," he recalls.

Since then, Ted has raced more than 400 times, but always for

the thrill of competing and never for money.

From the late 30's, when Ted was a lad of 17, he was always thrilled by speed. In Lansing, Michigan, he lived across the street from a national motorcycle champion.

When the new scrambles track opened recently in Huntington Beach, Ted was one of 21 invited to participate in opening day ceremonies. And, this was one of his biggest challenges: a T-T scrambles track where the jumps are high and the turns are hairpin.

In competition Ted rides a Honda or a 100 cc Bultaco, both

of which he owns and maintains. "That's half of the fun," he exclaims. "I get as much pleasure from finely tuning a machine as I do from riding it."

However, he prefers to ride the smaller bikes, in the 200 cc class or under, because of the ease of handling and their maneuverability.

Ted has been entering about 45 races a year. He'd like to finish off this season's racing by maintaining his current position of eighth in a field of about 2,100 riders.

"After that," he concedes, "I may settle down to a couple of dozen a year."



TED JUDGE 'HOT SHOES' AROUND A TURN

## Hallicrafters Offers Bargains For Christmas

If your Christmas shopping list includes something in the fields of radio or communications equipment, a check with a Northrop Personnel Activities outlet might save you some money on your purchase.

The Hallicrafters Company, a Northrop subsidiary, has initiated a special offer to Northrop personnel only of savings of up to 60 per cent off retail prices of their products.

Hallicrafters manufactures quality products in amateur, shortwave, high fidelity and standard broadcast radio, as well as two-way communications equipment, direction-finding radios and related items.

Personnel Activities outlets have product literature and price information. Purchase orders may be placed through these offices.

## Knowing 'Truth' Wins TV Prizes For Mr. Gentile

Anthony Gentile, Norair leadman in Automated Tool Control Visibility, will be seen on a Truth or Consequences television show to be aired either November 11 or 12 in the Southland by Channel 11.

Mr. Gentile attended the show's taping in early September with a group of friends from the Long Beach-Lakewood area. Emcee Bob Barker picked him to participate when it was revealed Mr. Gentile served four years as a city councilman in Springfield, Massachusetts, and was adept at public speaking.

In the show, Mr. Gentile and two other contestants are asked to listen to talks by Mr. Barker and actress Marie Wilson and distinguish between true and inaccurate statements.

Mr. Gentile did quite well. He won \$50, a watch and perfume for his wife.



Mr. Porter

The American silver dollar is the size, weight and metal of the Spanish "Piece of Eight" so sought by the buccaneers of the 17th century. This coin was widely circulated in the Americas. Often it was cut into "bits" to make change. A 1/8-section was the smallest and was known as "one bit." It had a value of 12 1/2 cents. So the 25-cent piece became "two bits."

"This is but one of the fascinating stories you can learn about coins," Mr. Porter said. "However, there is more to coin collecting than stories. It is one hobby where one can almost be sure that his purchases will increase in value."

"Coins will always be worth their face value. While rarities

bring astronomical amounts at times, even ordinary coins can bring a sizeable profit."

In this respect he mentioned the recent dramatic rise in value of silver dimes, quarters and half dollars when the U.S. stopped minting silver coins.

"An excellent way to get started in this hobby is to join us in the NRC Coin Club," he added. "We'll be delighted to help you get started. Our next club meeting is on Tuesday, November 12, at the NRC Clubhouse, Fullerton."

There is also a Northrop Coin Club operating in the Hawthorne area. Contact Personnel Activities for details.

## FINAL NRC DANCE SET NOVEMBER 9

There is still time to get tickets for the Northrop Recreation Club's last dance of the year, the 'Fall Fling,' set for Saturday, November 9, at the Mayflower Ballroom, Inglewood.

Tickets will continue on sale at Personnel Activities through Friday. They will also be on sale at the door on 'Fling' night.

Dancing to the music of Jimmy Talbert and his Orchestra will begin at 9:30 p.m., following a happy hour that starts at 8:30.

Tickets are \$1.50 per person.



# Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

## Automobiles For Sale

**Chevrolet**, 1964 Bel Air, r/h, auto. trans., p/s, \$950. 213-324-4817. A

**Ford**, 1963 Fairlane sports cpe., 4-spd., V-8, 4-bbl. carb., \$700 & take over \$42 mo. pymts., \$924 bal. 213-865-0197. A

**Ford**, 1955 Fairlane, 4-dr. sedan, r/h, auto. trans., \$180. 213-675-7403. A

**Dodge**, 1964 Dart GT, 4-spd., radio, \$775. 213-372-5367. A

**Corvair**, 1962 Monza, r/h, auto. trans., \$400. 213-673-1253. A

**Ford**, 1963 Fastback, 390 hi. perf., bored to 427 cu. in., 4-spd., r/h, \$800. 805-495-4429. A

**Buick**, 1966 Riviera GS custom, fully equipped, \$3,550. 213-755-4781. A

**Chevrolet**, 1964 Malibu 2-dr., r/h, p/s, auto. trans., \$1,195. 213-341-4016. A

**Buick**, 1962 Electra 225, 2-dr., h/top, completely equipped, \$850. 213-324-2992. A

**Volkswagen**, 1964, 1500 series, \$850. 213-675-4985. A

**Toyota**, 1968 Land Cruiser, 4-wheel dr., soft top, \$2,450. 213-862-8215. A

**Dune Buggy**, 1959 VW, Pody fiberglass body, \$550. 213-697-1075. A

**Chevrolet**, 1967 Impala, 2-dr. h/top, V-8, auto. trans., p/s, p/b, fact. air, \$2,095. 714-638-2025. A

**Volkswagen**, 1968 square back, 2,300 mi., \$2,300. 213-676-8816. A

**Volkswagen**, 1968, auto., 6,000 mi., \$1,800. 213-451-4261. A

**Volkswagen**, 1958, \$300. 213-426-4060. A

**Station Wagon**, 1966 Chevy II, V-8, auto. trans., air, \$1,795. 213-862-3027. A

**Chevrolet**, 1965 Malibu, 2-dr., h/top, V-8, p/s, auto. trans., r/h, \$1,800. 213-371-0323. A

**Chevrolet**, 1967 Caprice, p/s, p/b, fact. air, \$500 & take over \$116 mo. pymts. or \$3,000. 213-373-2723. A

**Mercury**, 1966 Monterey, 4-dr., r/h, p/b, p/s, a/c, \$2,295. 213-869-3419. A

**Chevrolet**, 1964 Impala, 2-dr. h/top, full power, 283 eng., auto., \$1,100. 213-882-2429. A

**Mustang**, 1957 2+2, 390 eng., 4-spd., air, power, AM-FM, extras, \$2,500. 213-323-4257. A

**Chrysler**, 1960 300 F, 413 cu. in. ram, full power, \$550. 213-370-4315. A

**Station Wagon**, 1956 Dodge, 4-dr., 6-pass., p/s, p/b, \$1,695. 213-866-2276. A

**Corvette**, 1967 327 Fastback, 300 h.p., AM-FM radio, posit. rear end, \$3,600. 213-679-7840. A

**Chevrolet**, 1955 2-dr. sedan, 6-cyl., auto., r/h, \$175. 213-677-5128. A

**Plymouth**, 1959 Belvedere, 2-dr., auto., V-8, \$275. 213-846-5589. A

**Chevrolet**, 1961 Biscayne, 2-dr., a/c, 6-cyl., new trans., \$375. 213-886-4438. A

**Pickup Truck**, 1959 Ford, 3/4-ton, auto. trans., V-8, hvy. duty suspension, camper, \$695. 714-838-3040. A

**Oldsmobile**, 1961, good tires, \$300. 213-587-1312. A

**Plymouth**, 1967 Sports Fury, 2-dr., h/top, auto. trans., p/s, p/b, a/c, \$2,995. 213-326-1856. A

**Ford**, 1965 Galaxie 500 XL, 4-spd., \$1,350. 213-676-4492. A

**Chevelle**, 1967, 396, r/h, p/s, p/b, a/c, Hydro, \$2,500. 213-363-7968. A

**Sunbeam**, 1965 Tiger, \$1,900. 213-639-0702. A

**Volkswagen**, 1961, rebilt. eng., \$750. 213-378-4924. A

**Ford Bronco**, 4-wheel dr., 289 cu. in. V-8, limited slip both axles, r/h, \$2,350. 714-847-2648. A

**Pickup Truck**, 1950 Chev., 1/2-ton, 6-cyl., \$250. 213-675-4589. A

**T-Bird**, 1965, full power, air, \$2,500. 213-679-0848. A

**Austin Healey 3000**, 1966, o/drive, wire whls., \$2,695. 213-376-2230. A

**Volkswagen**, 1968 sed., 4-spd., AM-FM Saphire radio, \$1,950. 213-667-2504. A

**Ford**, 1963 Galaxie 500, 4-dr., a/c, \$600. 213-413-8429. A

**Buick**, 1965 Riviera, full power, a/c, \$2,900. 213-865-5014. A

**Buick**, 1962 Skylark, fact. air, full power, \$1,195. 213-675-0479. A

**Valiant**, 1962 V200, 2-dr. h/top, 3-spd. auto. trans., \$895. 213-325-2863. A

**Mustang**, 1966 GT, hi-perf. 289-271 h.p., 4-spd. trans., disc brakes, extras, \$2,100. 213-675-2514. A

**Station Wagon**, 1962 Falcon, 4-dr., r/h, auto. trans., eng. o/haul, \$575. 714-846-1858. A

**Chevrolet**, 1960 Impala convt., V-8, r/h, p/s, p/b, auto. trans., \$425. 213-378-3255. A

**Station Wagon**, 1962 Mercury, a/c, p/s, r/h, \$695. 213-348-8712. A

**Station Wagon**, 1961 Oldsmobile, fully equipped, \$375. 213-757-5595. A

## Automobiles For Sale

**MG**, 1964 1100, sedan, \$500. 213-638-0244. A

**Chevrolet**, 1958, V-8 4-dr., auto., p/s, radio, \$300. 213-675-6963. A

**Chevrolet**, 1964 Biscayne, 327 V-8, 4-spd., \$795. 213-472-6715. A

**Dune Buggy**, fiberglass body, parts rebilt. from '61 VW, \$1,095. 213-396-6739. A

**Volkswagen**, 1957 Sunroof, eng. needs work, \$150. 213-375-5629. A

**Volkswagen**, 1964 2-dr. sedan, r/h, new exhaust sys., \$975. 805-642-5232. A

**Valiant**, 1963, auto. trans., r/h, \$695. 213-325-6546. A

**Pickup**, 1965 Chev., w/fully equipped pullman camper, \$1,595. 213-865-2036. A

**Pickup**, 1967 GMC, 3/4-ton V-6, p/s, p/b, a/c, \$2,500. 213-675-6223. A

**Volkswagen**, 1963 sedan, \$795. 213-477-3120. A

**Mercedes Benz**, 1956, 190 SL, new tires, \$750. 213-373-1395. A

**Ford**, 1965 Fairlane 500, p/s, p/b, fac. air, \$1,665. 213-372-3370. A

**Pickup**, 1960 Chev., 3/4-ton, auto. trans., r/h, w/pullman camper, \$950. 213-672-5694. A

**Oldsmobile**, 1967, Cutlass Supreme, 4-dr. h/top, p/s, p/b, a/c, r/h, auto. trans., \$2,500. 213-327-0883. A

**Pickup**, 1957 Ford, 1961 cabover camper, \$1,750. 213-371-1785. A

**Chevrolet**, 1966 Nova 2, 2-dr. h/top, Hydro, \$1,600. 213-632-1666. A

**Station Wagon**, 1957 Plymouth, \$125. 213-675-2416. A

**Pontiac**, 1967 Grand Prix, 2-dr. h/top, auto. trans., fac. air, p/s, p/b, radio, \$2,350. 213-645-9522. A

**Pickup**, 1967 Chev., custom cab, 283 h.p., 3-spd., hvy. duty equip., 10,000 mi., \$2,500. 213-284-0768. A

## Household Items For Sale

**Stove**, Crosley, elec., 2-oven, \$40. 213-379-4356. B

**Bedroom Set**, solid walnt, 5-pcs., 1 yr. old, incl. mattress & box spring, \$200. 213-370-5230. B

**Bar Stools**, 2, Italian provincial, white legs, yellow vinyl, \$50. 213-457-9186. B

**Range**, Gaffers & Sattler Deluxe, \$85. 213-753-7484. B

**Dryer**, Sears Kenmore 500, gas, 7 mos. old, \$120. 213-329-9303. B

**High Chair**, Cosco, makes into youth chair, \$10. 213-679-8426. B

**Refrigerator**, 9 cu. ft. Admiral, \$25. 213-679-7996. B

**Sofa**, 8', w/love seat, gold velvet, 1 mo. old, \$450. 213-672-0235. B

**Builtins**, coppertone, 2 yrs. old, elec., \$70. 213-675-6303. B

**Bedroom Set**, \$165. 213-373-1266. B

**Sewing Machine**, Morse, blond cabinet, knee control, \$30. 213-327-9044. B

**Refrigerator**, Frigidaire, 1957 13 cu. ft., top freezer, \$35. 213-378-0603. B

**Rug**, 9x12, beige, \$20. 213-327-6918. B

**Washer**, 1961 Kenmore, auto., white, \$50. 213-644-1952. B

**Table**, 32"x48", extra leaf, \$8. 213-757-5229. B

**Stove**, apt. size, \$35. 213-374-5696. B

**Davenport**, matching chair, blue & green print, \$100. 213-424-9187. B

**Stove**, apt. size, gas, 4-burner, \$25. 213-320-1943. B

**Crib & playpen**, other items, \$20 or sell sep. 213-832-1684. B

**Range**, O'Keefe & Merritt, \$50. 213-755-8542. B

## Miscellaneous For Sale

**Roller Skates**, men's size 7 & case, \$10. Box 2201. C

**Amplifier**, Eico HF-12, monaural, 4 inputs, \$25. 213-327-4267. C

**Ski Boat**, 13' Wizard, fiberglass, trailer, \$265. 213-378-3055. C

**Home**, Palos Verdes, 4-bdrm., enc. front & back yards, 10% dn., \$42,500. 213-377-9716. C

**Lawnmower**, power, 18" reel-type w/Briggs & Stratton eng., \$20. 213-756-9697. C

**Wiglet**, brown, worn twice, human hair, \$20. 213-320-6685. C

**Razor**, Norelco triple header speedshave 35T, \$12.50. 213-328-5655. C

**Trumpet**, student's, case, \$45. 714-592-5039. C

**Auto Parts**, chassis for 1956 VW, 1960 trans-axle, whls., tires, \$150. 805-495-8515. C

**TV**, 1946 7" Hallicrafter, \$25. 213-638-7463. C

**Rifle**, G-43 German, w/scope, sling & rod, \$150. 213-675-8617. C

**Radio**, Motorola, FM, for 12 V. sys., \$40. 213-292-6360. C

**Suits**, men's size 40, 2 dble. breasted, \$10 ea. 213-632-3623. C

**Train Layout**, H.O., approx. 60 cars, 5 engs., extras, on 4'x10' panel, \$80. 213-291-0025. C

**Bicycle**, English 9-spd., \$15. 213-327-9338. C

**Accordion**, Contella, 120 bass, case, \$150. 213-834-9468. C

**Accordion**, MM20 professional, w/amplifier, \$1,200. 213-679-4863. C

**Mobile Home**, 20x44, 1968, Rancho Hunting-ton, awn, porch, carport, a/c, \$10,500. 213-597-2260. C

**Wedding Dress**, size 8-9, satin w/lace, long sleeves, 9' train, \$45. 213-676-8833. C

**Pistol**, 9mm Browning hi-power auto., w/ tangent sight, \$185. 213-785-6142. C

**Hearing Aid**, 5 batts., Mercury made, adj., \$50. 213-675-1982. C

## Miscellaneous For Sale

**House**, 4-bdrm., 2 baths, f.a. heat, \$2,000 dn., \$170 mo., \$25,750. 213-776-5234. C

**Motorcycle**, 1964 Ducati, new eng., \$235. 213-370-1963. C

**Airplane**, Ecoupee, D model, w/ relicense date of sale, \$2,250. 213-639-6839. C

**Antenna Rotator**, CDR T.V., \$20. 213-377-6658. C

**House Trailer**, 8'x28' Trave'ler, \$400. 213-324-8891. C

**Ski Boat**, 13 1/2', 44 h.p. Mercury outbd., trailer, many extras, \$600. 213-476-1649. C

**Lot**, 1/2-acre, Apple Valley, utils., \$20 mo, \$150 dn., \$1,995. 213-328-7048. C

**Travel Trailer**, 1965 14' Scotsman, sleeps 4, \$595. 714-893-1252. C

**Stroller**, fixed wheels, \$6. 213-671-0925. C

**Apt**, 2-bdrm., den, 2 baths, elec. kitchen, pool, party rm., hobby shop, Gardena area, adults, 1 yr. lease at \$215 mo. or \$27,000. 213-323-1580. C

**Home**, Rolling Hills Ests., cor. lot, 4-bdrm., 2 baths, bltins, cpts., dps., recently painted, 20 x 40 heated pool, \$45,500. 213-832-4472. C

**Kittens**, Siamese, male & female, 8 wks. old, \$12 ea. 213-835-6710. C

**Speaker**, Hi-Fi, & cabinet, 12" Jensen Duax, \$15. 213-329-1705. C

**Stroller**, \$5. 213-376-4831. C

**Enlarger**, Omega B-4, trays & access., \$55. 213-374-5133. C

**Camera**, Minolta Hi-Matic 9, 35mm, 1 1/2 yrs. old, case, \$75. 213-325-9492. C

**Lapidary Equipment**, complete, \$75 or sell sep. 213-326-5912. C

**Bicycle**, 3-spd. Sting Ray, 1 yr. old, \$30. 213-672-2370. C

**Skis**, child's, Marker bindings, 5', \$12. 213-376-5810. C

**Swimming Pool**, 12'x3', all access., \$25. 213-329-9021. C

**Typewriter**, Remington elec., office size, \$175. 213-676-3050. C

**Tape Player**, stereo, \$65. 213-329-8822. C

**Accordion**, Contello 120 bass w/case, \$200. 213-374-8645. C

**Cabin Cruiser**, 17', glass, trailer, 110 Merc eng., fully equipped, \$1,900. 213-375-0351. C

**Pups**, German shepherd, Rin Tin Tin color, females, \$30. 213-675-3725. C

**Motorcycle**, Honda CB-160, \$350. 213-221-0962. C

**Christmas Lights**, outdr-type, 8 strings of 25, many others, roof stands, flood light, \$35. 714-527-7397. C

**Fall**, Miss R & M Demi, light blond, Poly-amid Fashion Fiber, \$55. 213-375-8722. C

**Trailer**, 1961 16' Dalton, elec./butane refrig., sleeps 5, \$650. 213-534-5287. C

**Stereo**, Somet, AM-FM, portable, a.c.-d.c., \$50. 213-672-7424. C

**Sailboat**, 23' Star Class day sailer, \$700. 213-391-3715. C

**Mini Bike**, 8 h.p. West Bend, \$135. 213-393-5649. C

**Xylophone**, Deagan, \$125. 213-329-5364. C

**Motorcycle**, 1968, 100 cc Moto Beta, \$350. 714-528-5378. C

**Wedding & Engagement ring set**, \$150. 213-322-5930. C

**Toys**, fighting men by Mattel, \$5. 213-371-8695. C

**Surfboard**, 9'7" Rick, \$45. 213-370-2304. C

**Motorcycle**, 1966 Honda, 305 Scrambler, \$375. 213-377-8817. C

**Motorcycle**, 1966 Triumph Bonneville, 650 cc, \$900. 213-675-9673. C

**Antenna Rotator**, for TV, Sears, auto., w/elec. motor, never used, \$20. 714-649-2260. C

**Drill Press**, Dunlop, hvy. duty bench model, 1/2 h.p. motor, \$60. 213-754-5358. C

**Organ**, Thomas spinet, elec., \$350. 714-530-2479. C

**Chain Saw**, hvy. duty Homelite, \$125. 213-375-0915. C

**Guitar**, Martin D-28, hard case, \$350. 213-671-9371. C

**Hi-Fi**, Motorola, stereo, portable, twin spkrs., \$35. 213-677-5265. C

**Surfboard**, Harbor Cheater speedfin, 10', \$35. 213-375-4940. C

**Home**, 5-bdrm., 3-car gar., central a/c, undg. util., 600 sq. ft. brick & redwd. patio, landscaped, sprinklers, fence, dps., near Northrop Ventura, \$38,500. 213-889-8075. C

**Swimming Pool**, 24' dia. x 4' deep, filter & all access., \$185. 213-633-3993. C

**Poodle**, white toy, 4 mos. old, shots, \$45. 213-438-9700. C

**Motorcycle**, 1968 Honda, 90 cc Scrambler, extras, \$325. 213-672-9322. C

**House**, 4-bdrm., 2 baths, 2-story provincial, cpts., dps., fences, att. dble. gar., f/place, fam. rm., covered patio, 5 yrs. old, near El Camino, \$39,000. 213-329-0086. C

**Tires & wheels**, 2 750x15, 3 600x16, 15" slick, & 2 550x5, \$30. 213-329-3286. C

**Stereo**, mahogany cabinet, \$75. 213-372-2934. C

**Motorcycle**, Honda 90, 7 1/2 h.p., elec. starter, all access., \$220. 213-461-2503. C

**Acreage**, 2 1/2 acres, in Lancaster, \$1,500 dn. \$50 mo., 6% int., \$4,990. 213-375-7130. C

**Camera**, Polaroid auto. 100, flash, used twice, \$65. 714-635-3315. C

**Scuba Outfit**, complete, \$175. 213-323-5685. C

**Lot**, Lake Elizabeth, paved street, electricity & water, 10% dn., \$4,150. 805-947-8389. C

**Tent Trailer**, sleeps 6, stove, ice box, sink, \$700. 213-320-7197. C

## Miscellaneous For Sale

**Snowmobile**, 1967 Polaris Colt 140, 15 h.p. 300 cc Hirth eng., trailer, \$800. 714-838-7161. C

**Tool Box**, roll-a-way type, Sears 2-dwr., \$35. 213-320-7065. C

**Surfboard**, Bing 9'7", less than 1 yr. old, \$60. 213-549-1349. C

**Record Player**, stereo, Silvertone portable, det. spkrs., \$35. 213-675-5946. C

**Sailboat**, 28' sloop, sleeps 4, inbd. eng., main, jib, genoa & spinnaker, \$5,000. 213-378-4352. C

**Preamplifier**, Gommies, hi-fi, AM-FM-AFC tuner, \$50. 213-679-2864. C

**Home**, 4-bdrm., fam. rm., 3 baths, bltins, cpts., tri-level, heated 16'x32' pool, dble. car gar., b/wall fence, Torrance. \$49,500. 213-370-6734. C

**Motorcycle**, 1967 Honda Super Hawk, 305 cc, \$500. 213-545-1944, 213-534-5298. C

**Bicycle**, girl's 24", \$15. 213-325-4737. C

**Inspector's Tools**, precision type, complete set, \$350. 213-567-2723. C

**Tires**, 4 Goodyear custom power cushion, 8.45x15, \$2 ea. 213-677-7350. C

**House**, 4-bdrm., 2 baths, beam ceiling, f/ place, walled corner lot, covered patio, det. gar., 15 min. to Norair, \$34,950. 213-323-0826. C

**Acreage**, 2 1/2 acres, Antelope Valley, \$42 dn., \$42 mo., no int., \$4,200. 213-378-1026. C

**House**, 4-bdrm., 2 baths, 3 miles from Nort. Anaheim, bltins, f/place, \$24,750. 714-871-7640. C

**Utility Trailer**, 4'x8', \$125. 213-326-1409. C

**Acreage**, 2 acres, view, new Perris Reservoir, \$40 dn., \$40 mo., \$3,950. 213-377-1074. C

**Baby Pram**, Pedigree English buggy, use as car bed, \$75. 213-476-2317. C

**Shocks**, 4, for '67 or '68 Ford, \$12. 213-671-6692. C

**Pool Table**, 2 cues, balls, \$35. 213-371-6775. C

## Wanted to Buy

**Airplane**, Piper J-3 Cub in good condition or something similar, not more than \$1,800. 213-324-6770. D

**Reloading Dies**, for .38 Special, .38 auto., 30-30 Winchester & 7mm Mauser, w/bullets, brass & powder measure. 213-374-8358. D

**Van** or sports wagon, Ford or Dodge, not older than 4 yrs. 213-372-7994. D

**Adding Machine**, elec. 213-326-6195. D

**Air Compressor & spray gun outfit**, good quality. 213-377-6193. D

**Car**, 1960 to 1964. 213-374-4703. D

**Adding Machine**, used, elec. or manual. 714-633-5826. D

**Hardtop** for 1962 Corvette, reasonable, 213-532-6109. D

**Organ**, elec., in good condition. Box 2202. D

## Free (To Be Given Away)

**Cat**, long-haired female, calico, 1 1/2 yrs. old. 213-692-6336. F

## Rentals Offered

**House**, 2-bdrm., partly furn., encl. yard, Inglewood, \$150. 213-823-1910, 213-823-5225. G

**Cabins**, Lake Gregory & Crestline, sleep 6, \$25 w/ends; \$60 wk. 213-391-2040. G

**Apt**, 2-bdrm., unfurn., cpts., dps., stove, carport, adults, no pets, \$125 mo. 213-324-1914. G

**Vacation Cabins**, Idylwild, 1 & 2 bdrms., f/place, stream, patios, \$20-\$35 w/ends; \$45-\$80 wk. 213-754-5288. G

**Studio Apt**, 3-bdrm. & den, 3 baths, \$210 mo. 213-671-2219. G

**House**, unfurn., 2-bdrm., 2 baths, cpts., dps., bltins, f/place, gar., sundeck, ocean view, \$210 mo. 213-379-9362. G

**House**, 2 blocks from Norair, 2-bdrm. & den, 1 1/2 baths, attach. gar., corner lot, \$190 mo. 213-676-0935. G

**Apt**, 3-bdrm., bltins, cpts., dps., 2 baths, laundry facilities, closed gar., \$160 mo. 213-375-6715. G

## Rides and Riders

### Rides Wanted

7 a.m. — 3:42 p.m.

**Lomita Blvd. & Eshelman Ave.**, Lomita. Ernestine G. Harper, Norair ext. 2632, 213-326-6744. A

**La Cienega & Melrose**, Los Angeles. Meet driver anywhere in vicinity. Edith Bress, Norair ext. 2905, 213-652-2806. A

7:30 a.m. — 4:15 p.m.

**Pico & Crenshaw Bldvs.**, Los Angeles. Rick Escobaza, Norair ext. 1314. A

### Rides Offered

8 a.m. — 4:45 p.m.

**Brookhurst & Katella Ave.**, Anaheim. Need additional member for car pool. Edith Robin Green, Norair ext. 1144, 714-833-0939. A

### Rentals Offered

**Apt**, 3-bdrm., 2 baths, cpts., dps., pvt. patio, gar., near Northrop, \$225 mo. 213-360-3497. A

**Apt**, 2-bdrm., furn., lge. pool & patio, closed gar., near El Camino, adults, \$170. 213-329-5586. G

**Apt**, near Redondo, King Harbor, cpts., dps., bltins, gar. w/storage cabinets, 1-bdrm., \$125; 3-bdrm., 2 baths, \$180. 213-372-8835. A

**Cabin**, Green Valley, \$25 w/end; \$45 wk. 213-324-0649. G

**Apt**, 2-bdrm., unfurn., h/wood flrs., f/place, adults, close to Northrop, \$100. 213-755-0630. G

### Rentals Wanted

**Apt or House**, 1-bdrm., furn., 2 adults. 213-757-5181. H

### Child Care</



## FOR BUSSERS

## An Extra 40 Winks on 7:40 Special

At least 45 employees at Northrop Ventura have solved free-way driving problems. They've chartered their own bus and left the driving to the Associated Charter Bus Company of Van Nuys.

Since August 1967, this team of riders has had their own captains, Joe Pulver, Fred Longo and Walt Mann, all three of whom make arrangements and handle the business side of things. Each rider pays about \$7 a week for

the convenience.

"The way I look at it," says one, "it's cheaper than if I drove my big car to and from work every day. And then there's that free time while riding."

That free time while riding is part of the appeal. Some employees read the morning papers while others study for night courses or juggle coffee from their thermos. Still others catch up on novels, sleep, or knitting.

The Northrop Ventura Special makes four stops. The first employees to board at Mission Hills ride 55 minutes, the last group from Woodland Hills only 25 minutes. Other stops are in Van Nuys and Encino.

"We're hopeful," says Mr. Pulver, "that the charter company will soon be able to provide a coach with reclining seats. We'd have room for a few more riders then and could cut back on our waiting list."



THE VENTURA SPECIAL prepares to pull off promptly at 4:50 p.m. as the last few San Fernando Valley riders close ranks to meet their homebound bus. The chartered, air conditioned

motor coach has delivered employees safely to and from work at Northrop Ventura since employees chose their own means of rapid transit over a year ago.

## VENTURA GOLF

## Green River Tourney Winners Named

Forty-five golfers, playing in three flights, have participated in the October tournament of the Northrop Ventura Golf Club at the Green River golf course in Corona.

Flight "A" was won by Bill Quick, jr., who fired a 62. Nelson Latraverse edged Bill Downs by two-tenths of a point to take second place as both shot 67's.

Flight "B" finished with Ross Ketchum's 66, good for the win. Ed Sheridan shot a 70 to hold

second position and John Brazel had a 71.

Flight "C" action was led by Mike Antenucci who carded a 67. Percentages placed Gil Topp in second place over Hal Barber. Both had 71's.

The best ladies round of the day was the 75 fired by Clara Curtis. Bill Quick, jr. had the longest drive on number 10.

Closest to the pin on the short hole drives were Gil Topp (number 2), Bill Carruthers (number

9) and Ross Ketchum (number 18).

The next tournament action for Northrop Ventura golfers will be November 29 at the Ojai Inn and Country Club.

Further information is available from Dick Kipp, golf commissioner, on ext. 678.

## X-RAYS OFFERED HERE THIS MONTH

The Mobile Chest X-Ray Survey Lab will be at Northrop Ventura on November 19 and 20.

Employees are invited to participate in this program during work hours after completing and signing chest X-Ray cards. The cards were distributed with timecards on October 28. Cost of the X-Ray to each employee will be \$1.25.

No X-Rays will be taken without a scheduled appointment.

Appointment cards will be distributed with timecards on November 18.

## APOLLO

(Continued from page 1)

preciation to Northrop Ventura for a job well done. We can now look forward to the next phase of the Apollo program, which will most likely be a circumlunar flight during mid-December of this year."



THINGS ARE DUCKY on the pond at Northrop Ventura. One day last month a lone, wild mallard drake appeared to exercise his squatter's rights. Since then, he's been receiving handouts of bread crumbs from employee lunch boxes. "Mal" even makes an occasional foray onto the grass when pickings become especially slim in the water. Preening his brightly colored plumage, he's, by far, the star of lunchtime at Ventura.

## Ventura Is Participant In Plastics Convention

Northrop Ventura has participated in the recent western division convention of The Society of the Plastics Industry, Incorporated.

The convention met in Long Beach to commemorate the twenty-fifth anniversary of the use of reinforced plastics in aircraft.

Vince Gurley, chief of Subcontracts and Air Transport Marketing at Ventura, delivered the keynote address to the commercial aviation panel. Also representing Northrop Ventura Marketing was Bart Cook.

Ventura's participation included a display of two Boeing 747 wing fairing panels in the exhibit area at Long Beach Airport. In addition there was an RP-76 remote control target drone and a photo display illustrating Northrop Ventura's participation in the 747 program.

The main address was delivered

by Harold Boeschstein, chairman of the SPI executive committee, representing the Owens-Corning Fiberglas Corporation. He reviewed the progress made in the use of reinforced plastics in aircraft, the current state-of-the-art, and future expectations for the industry.

## HOLIDAY SCHEDULE FOR THANKSGIVING

A holiday work schedule permitting four consecutive days off during the Thanksgiving weekend has been announced for Northrop Ventura employees.

To make this possible, employees will be scheduled to work November 16 in lieu of November 29. Normal work shifts will prevail.

This non-standard holiday schedule is to provide employees and their families the benefit of a long weekend.



'PHOTOGRAPHICUS EMERITUS' and a "fellow in the Northrop Ventura Photographic department" is a new honor bestowed upon Welko E. Gasich, vice president and Ventura general manager. He received the certificate in recognition of the photographs which he took at the Boeing 747 rollout and at the Apollo 7 launch. Curly Martin presented the award to Mr. Gasich on behalf of the department.



JUNIOR ACHIEVEMENT advisors at Northrop Ventura for the current school year are, from left, Lou Gabriel, production; Bill Brooks, sales; Chuck Taylor, program coordinator; and Cliff Mileham, alternate advisor. Al Robinson, assistant coordinator, and Dave Magedman, management advisor, were not present when the picture was taken. Each year Northrop Ventura counsels Junior Achievers from Newbury Park and Thousand Oaks high schools.



# Families Invited to Visit Northrop Ventura Facilities

## NORTHROP NEWS

VENTURA EDITION

Northrop Corporation, Beverly Hills, California

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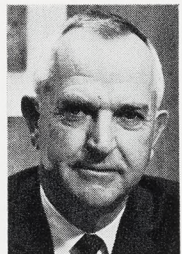
### G.F. Douglas To Succeed R.R. Nolan

Richard R. Nolan, senior vice president for Manufacturing and Administration, will retire next April after 30 years of service with Northrop Corporation, it has been announced by Thomas V. Jones, president.

George F. Douglas, president of Northrop Carolina, Inc. for the past 18 months, will succeed Mr. Nolan as senior vice president of Administration upon Mr. Nolan's retirement. In the interim, Mr. Douglas will serve as a senior vice president and advisor to the president from January 1 until April.



Mr. Nolan



Mr. Douglas



Mr. Ricketts

Succeeding Mr. Douglas as president of Northrop Carolina will be James M. Ricketts, deputy manager of the Anaheim department of the Nortronics Division. Mr. Ricketts' appointment was effective November 15. In his new capacity, he will report to Frank Lynch, vice president and assistant general manager, Anaheim department of Nortronics.

"Mr. Nolan has led in a great many of the actions that have enabled Northrop to grow from a small company of only 50 employees to one of more than 25,000," Mr. Jones said in making the announcement.

"One of the original employees of the company, Mr. Nolan's progress from Tooling supervisor (See DOUGLAS, page 6)



GETTING READY—Cheryl Meinke holds the model and Mort Miller does the lettering on signs to be used at Northrop Ventura's Family Day Sunday. Ventura facilities will be open from noon to 5 p.m. Employees will serve as host and guide for their visitors.

### Cost Saving Ideas Bring Cash Awards to Thirteen

Suggestion awards totaling \$651 were paid to 13 employees at Northrop Ventura for 14 cost saving ideas in October.

The largest check went to Isabella Willson of the Spotweld department who took home \$141 by suggesting the use of a locating tool for spotweld machines.

#### COST OF LIVING INCREASES GIVEN

A cost-of-living wage increase went into effect early this month for all hourly rated employees at Northrop Ventura, according to Don Archer, chief of Employee Relations and Compensation.

Effective November 4, the allowance was boosted by four cents an hour. The total cost-of-living compensation is now 24 cents an hour.

Employees began receiving the allowance in last Friday's checks.

The changing allowance is based upon changes in the Consumer Price Index published by the U.S. Department of Labor, Bureau of Labor Statistics.

In another award, Mrs. Willson shared \$194 with Louis Keener, also of the Spotweld department. Mrs. Willson and Mr. Keener suggested cut-off electrodes for spotwelding difficult parts.

Gladys Miller of the Electrical Fabricating Assembly department, devised a rack to spot-tie cables and received \$95.

Other cash awards ranged from \$15 to \$43 and were presented to Wayland Ratcliffe, Hiley Hajicek, Paul Friedman, Norma Cretal, Thomas Lytle, Arlene Douglas, Silvio DiPasquale, Eric Fussell, Thomas Gray (2) and Robert Hughes.

### Snoopy Pins Honor Six Venturans

The National Aeronautics and Space Administration has conferred its symbol of excellence—the Silver Snoopy award—upon six Northrop Ventura employees.

The first Northrop employees on the West Coast to be so honored were Oscar Cease, Santiago Colunga, Dick Kipp, Gary Porter, John Simpson and Bob Wondka.

The award, a silver lapel pin, created in the likeness of the comic strip character Snoopy, was presented earlier this month to the six men by NASA Astronaut Walter Schirra at North American Rockwell Corporation's Space Division in Downey.

Snoopy, the beagle and sometime foe of the dreaded Red Baron in Charles Schulz's comic strip "Peanuts," has become Snoopy the Astronaut on behalf of the U.S. space program. Mr. Schulz has attired Snoopy in a spacesuit for the emblem, which (See SNOOPY, page 6)

### Displays, Exhibits, Movies to Be Featured; Employees Will Serve As Hosts and Guides

Family Day at Northrop Ventura is this Sunday from noon to 5 p.m.

In a free-flow atmosphere, employees will serve as guides for their family and guests, taking them to displays, exhibits and work areas throughout the plant. Hosts will be on hand at display locations to answer questions concerning Ventura's products and programs.

Welko Gasich, vice president and Ventura general manager, has issued the following invitation to all employees:

"I would like to encourage each of you to participate in Family Day because it will give you an opportunity to show your family and friends your contribution to Northrop Ventura.

"Also, from an architectural standpoint, we have one of the most beautiful facilities in Southern California and we should be proud to display it to our visitors.

"Since all departments will be open, we will have the opportunity of getting around to see what other members of the Northrop Ventura team are doing."

A feature of the afternoon will be color movies and slides of Ventura programs including Mr. Gasich's 747 rollout presentation. These will be shown on the hour beginning at 1 p.m. in the assembly room.

Also, Northrop Data Processing will feature a unique computer display demonstrating the functions and versatility of the Northrop computer network.

Northrop Ventura's target drones and the Apollo Earth (See FAMILY DAY, page 6)

### New Benefits, Higher Wages In Contract

A three-year labor contract between the Ventura Division of Northrop Corporation and the Northrop Ventura Employees' Union (NVEU) has been announced.

Approximately six weeks of negotiations preceded the new contract, which provides for significant increases in wages and benefits for the employees represented by NVEU.

Highlights of the settlement, which contains more than 30 economic improvements, include:

A 6.4 per cent general wage increase the first year, retroactive to August 19, and general increases of 3 per cent in both 1969 and 1970.

Amendments to the pay rate structure to reflect an 8.4 per cent increase in the minimums of labor grades and a 6.4 per cent increase in the maximums of labor grades.

An accumulated 20 cents an (See CONTRACT, page 6)

### Referral Award Plan Adds Aircraft Assembly Skills

The Northrop Referral Award Plan at Ventura has been extended to include aircraft assembly skills needed on the MQM-74A line, according to Jack Theibert, acting chief of Personnel.

Until February 1, 1969, Northrop Ventura will pay \$100 to an employee who refers a worker who becomes permanently employed as a senior structural assembler, and \$50 to one who refers a structural assembler hired on a permanent basis.

A prerequisite for senior assembler is two and one-half years of experience directly related to aircraft sheet metal assembly. Assemblers must have one year of recent experience in aircraft assembly, including rivet-

ing and associated skills.

Mr. Theibert stressed that what the division is looking for are principally riveting, sheet metal and aircraft assembly skills.

The most recent awards paid under the Plan went to Fred Mickey (\$300), an engineer in the Fluid Dynamics group and to Milo Williamson (\$200) of the Tooling Fabrication unit. Mr. Mickey referred an engineering specialist and Mr. Williamson referred a pattern maker to Northrop. Both awards were based on earlier announcements no longer open.

At least one other award still will be made in November and several others are under consideration.



GOOD IDEAS PAY—Isabella Willson of Spotweld, received a \$141 Employee Suggestion Award check from Walter Sternadel as Warren Clymer looks on. Mrs. Willson also shared an award of \$194 with Louis Keener of Spotweld.



THE PAYOFF—Jack Theibert, acting chief of Personnel, plays the straightman, Fred Mickey (center) and Milo Williamson, the eager comics, as they ham up a Referral Awards check presentation. Checks were for real, however. Mr. Mickey earned \$300, Mr. Williamson, \$200. Program has been extended to include aircraft assembly skills with payments of \$50 and \$100 possible for referring individuals with required skills.



## NORTHROP NEWSMAKERS

**D. D. Gregor**, Norair, will discuss "Operational Capability Analysis", December 2-6, before a UCLA Engineering and Physical Science extension group.

**Dr. Sylvan Katz** has joined the staff of the chief scientist, Northrop Corporate Laboratories. He has served as manager of the theoretical physics department of the Aeronutronic Division of Philco-Ford. Dr. Katz holds degrees from Yale and Columbia Universities and earned his doctorate in 1960 from UCLA. He is a member of the physics department at the University of California — Irvine.

**Cecil M. Callaway**, Norair, has presided at the presentation of participation awards made during the annual conference of National Association of Suggestion Systems in Pittsburgh. Mr. Callaway is a director of NASS.

**Colonel A. Paul Fonda**, USAF retired, now a member of the International group in Northrop's Eastern Regional office, received the Air Force Legion of Merit for his previous work as chief, Reserve Headquarters, Headquarters

ters USAF.

Presentation was made to Colonel Fonda by Air Force Chief of Staff General John P. McConnell in a Pentagon ceremony attended by Mrs. Fonda.

The citation said that Colonel Fonda's outstanding service resulted in significant contributions to the effectiveness and success of the Air Force Civil Air Patrol program.

**Bob Wondka**, Ventura, addressed the American Society of Tool and Manufacturing Engineers, Ventura/Santa Barbara sub-chapter 27, at their dinner meeting at Camarillo last week. He spoke on the history of the space program in general and talked specifically of Northrop Ventura's contribution of the Earth Landing System in relation to the total Apollo program.

**Herb Dugger**, Norair, has received a special Certificate of Merit from Toastmasters International for the successful completion of that group's basic speech training program. Mr. Dugger is a member of the San Pedro Toastmasters.



LEGION OF MERIT presented to Colonel A. Paul Fonda, USAF retired, is admired by General John P. McConnell, Air Force chief of staff and Mrs. Fonda. Colonel Fonda, a member of the International group in Northrop's Eastern Regional office, was cited for his performance as assistant to the chief of Air Force reserve headquarters, USAF Headquarters, from 1965 to 1968. Special mention was made of Colonel Fonda's contributions to the USAF Civil Air Patrol Program.

## Page Wins Three Communication Systems Pacts

Northrop's Page Communications Engineers has received three contracts totaling more than \$38 million during the past month for installation of long-range communications systems in Europe and South America.

For the Voice of America, Page will build a series of radio stations and transmitters at Kavala in northern Greece under a \$15.8 million contract.

Also in Greece, the Northrop Page associate firm, Page Europa, S.p.A., has won a \$12.7 million contract to install a television and FM radio broadcasting system.

Under the third contract for \$10 million, the Northrop subsidiary will improve and expand the telephone system in the state of Bahia, Brazil.

## Wanderers Hold Ranch Campout

Over the Thanksgiving weekend members of the Northrop Wanderers will hold their annual campout at the KOA Ranch, Victorville.

The ranch features a heated swimming pool, with nearby facilities featuring trout fishing, golf, rockhound areas, horseback riding and a variety of other attractions.

## DANCE CLASSES

Students will be accepted for the next two weeks in a new series of ballroom dancing classes opening this week under NRC sponsorship in the Hawthorne area.

Held at the VFW Hall, Hawthorne, the classes offer Cha Cha at 8 p.m. and western swing at 9:30 p.m. Sessions are held each Tuesday for 10 weeks.

## Addresses Need to Be Kept Current

Maintaining a current residence address and home telephone number for each Northrop employee is important, both for the welfare of personnel and sound business practices.

As an example, Northrop will mail W-2 tax forms necessary for filing state and national income tax reports shortly after the first of the year. Other communications are mailed to the home periodically. And current telephone numbers aid immediate contact in cases of extreme emergency. Change of address forms are available through all Northrop Personnel offices. Or an employee may dispatch a memo to applicable Personnel offices listing his/her full name, employee number, street address, city, state, zip code and home telephone numbers.

## Big Preview of Electronics Set For WINCON

WINCON — the 1969 Winter Convention on Aerospace and Electronics Systems—will provide a preview of the electronics of the 1970's, according to Lloyd K. Jensen, assistant to WINCON general manager Frederick Stevens.

"Attendees will learn the latest in medical electronics, telecommunications, air traffic control, satellites, new avionics, solid state radar, modern naval ships, and more," Mr. Jensen said.

The convention will be held from February 11 through 13 at the Biltmore Hotel, Los Angeles.

Technical sessions for the convention will be co-sponsored by the Los Angeles Council of the Institute of Electrical and Electronic Engineers and the Aerospace and Electronics Systems group.



ALLIED OFFICERS from eight nations and the United States are shown touring the Norair F-5/T-38 assembly line. The officers from allied nations are currently engaged in F-5 MAP training activities at Williams AFB, Arizona, and called at Norair in conjunction with that training.

## Allied Military Officers Call at Northrop Norair

Northrop Norair took on the aspects of a small United Nations November 1 with the visit of 42 military representatives from eight allied nations.

Visitors hailed from Ethiopia, Iran, Jordan, Libya, Morocco, Norway, Spain and South Vietnam.

They were taking part in a tour conducted in conjunction with the Foreign Training Office

at Williams AFB, Arizona, for Military Assistance Program personnel. All are currently engaged in F-5 MAP training at Williams.

Wally Reese, Norair director of Customer Relations Plans and Programs, was host for the visit. Following introductions and discussions, the visitors saw a special slide presentation, three films, and the F-5/T-38 assembly area during a special tour prior to lunch and departure.

## THANKSGIVING HOLIDAY NEAR

Northrop Corporation personnel throughout Southern California will enjoy a four-day holiday next week in observance of Thanksgiving.

Thursday, November 28, and Friday, November 29, will be coupled with Saturday and Sunday to provide this special long period of time off. Regular shifts will resume December 2.

## Bowlers Sought For Christmas Keg Tourney

Entries will be accepted through December 6 for the 15th annual All-Northrop Christmas bowling tournament set for December 28-29 at Tropicana Lanes, Inglewood.

This big event, which traditionally draws keggers from all Northrop facilities in the Southland, will feature singles and doubles events for men and women, plus mixed doubles. Entry fee is \$2.65 per event.

Squad times December 28 are noon, 2 and 4:30 p.m.; December 29, noon, 1 and 4:30 p.m.

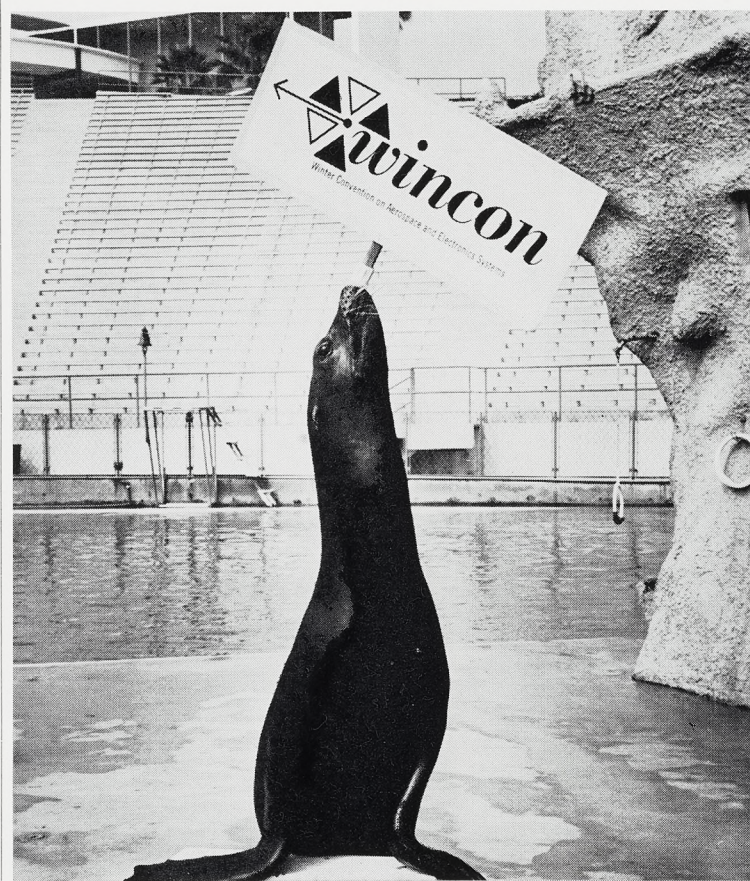
Entry forms are now available at all Northrop Personnel Activities outlets.

## Page Will Build Earth Station at Site in Lebanon

Receipt of a \$2.75 million contract to build an earth communications station in Lebanon has been announced by Page Communications Engineers, Inc., a Northrop subsidiary.

The contract was let by the Republic of Lebanon Ministry of Post, Telegraph and Telephone. Operating through the Intelsat satellite, the station will carry voice channels, telegraph, teletype, high speed data and color television transmissions. It will be completed in 1970.

Ground was broken for a similar station in Iran recently, while a third station, in Panama, became fully operational in early October.



SANDY THE SEA LION from Marineland of the Pacific takes this means of pointing out that WINCON, the 1969 Winter Convention on Aerospace and Electronics Systems, plans a well-balanced program that will provide something of interest to every attendee. The convention, largest of its kind on the West Coast, will be held from February 11-13 at the Biltmore Hotel in Los Angeles.



# Northrop Families View Historic Apollo 7 Spacecraft

## Apollo 7 Astronauts Present Snoopy Pins To Six Northrop Ventura Program Veterans

If the well laid plans of the National Aeronautics and Space Administration go according to schedule, Apollo 8, with its three-man crew, will be launched December 21 toward 10 orbits of the moon and a return to earth six days later.

The decision to "go" with Apollo 8 at this time was announced last week by NASA officials.

So, it may very well be Christmas around the moon for Astronauts Frank Borman, James Lovell and William Anders. Mr. Borman and Mr. Lovell are spaceflight veterans, holding the record for the longest flight ever made. They orbited the earth for two weeks in Gemini 7. Mr. Anders will be making his first trip into space.

Meanwhile, as Apollo 8 was being readied, Apollo 7 was still being applauded. Tens of thousands of employees, families and guests of North American Rockwell's Space Division in Downey were treated to a close-up view of the Apollo 7 spacecraft command module barely 10 days after its splashdown.

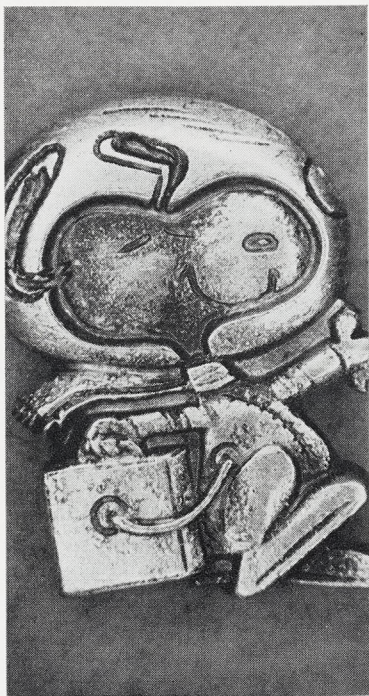
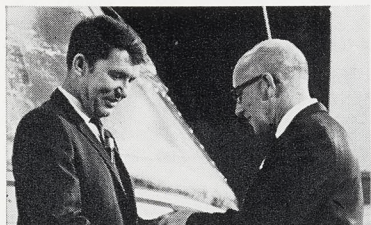
From Northrop Ventura, the families of many of those directly concerned with the conception, design and manufacture of the Apollo Earth Landing System made the trip to see what their efforts had wrought.

Later, six from Northrop Ventura were presented Snoopy Pins—the astronaut's personal symbol of individual excellence in contribution to the program. The pins feature the comic strip character, "Snoopy", the dog from the syndicated "Peanuts" series by Charles Schulz. Mr. Schulz granted permission for use of Snoopy's image in connection with the astronaut's award program.

It was at Downey, again, that Oscar Cease, Santiago Colunga, Dick Kipp, Gary Porter, John Simpson and Bob Wondka received their awards from Astronauts Walter Schirra and Walter Cunningham. It was in Downey that they personally thanked all of those whose work contributed to a nearly perfect space mission.

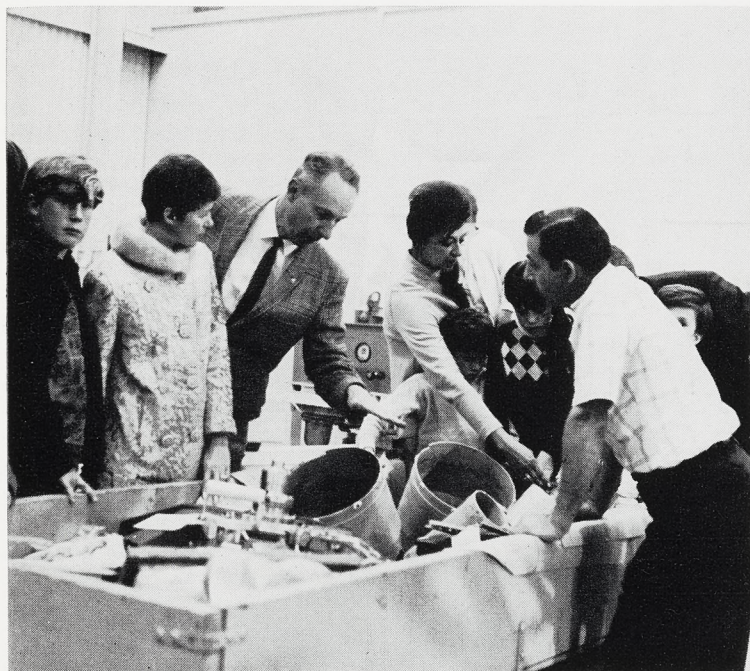
But, Northrop's contribution to Apollo 7 extends beyond Ventura to the Airborne Lightweight Optical Tracking System (ALOTS) developed for the U. S. Air Force by the Nortronics Division at Palos Verdes. It was ALOTS which photographically tracked the spacecraft from launch through the earth's atmosphere with a 70 millimeter high resolution camera externally mounted in a KC-135 aircraft.

Also, in a joint venture with Brown & Root at Houston, Texas, Northrop was assigned responsibility for operational support of the Lunar Receiving Laboratory at NASA's Manned Spacecraft Center.



**SNOOPY PINS**, the astronaut's personal symbol of individual excellence in contribution to the Apollo program, were presented to six Northrop Ventura men by Walter Schirra, Apollo 7 spacecraft commander. Receiving pins from top left

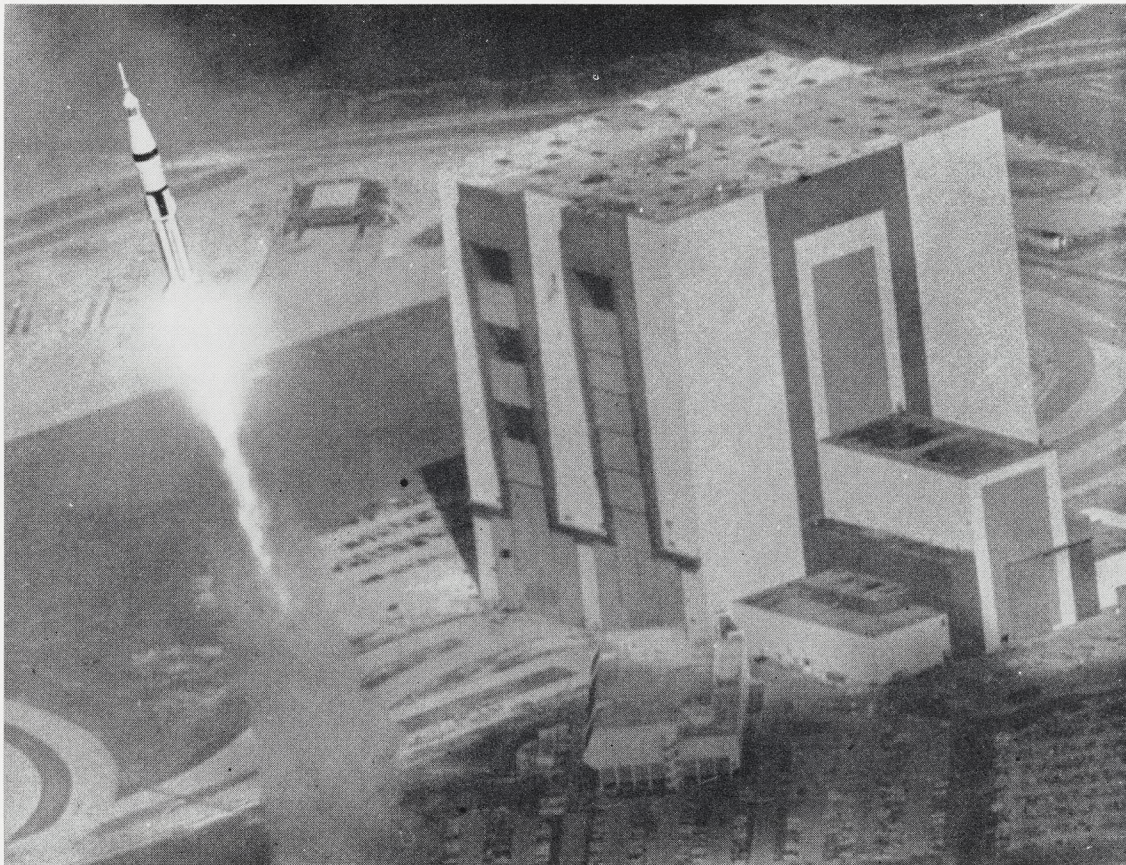
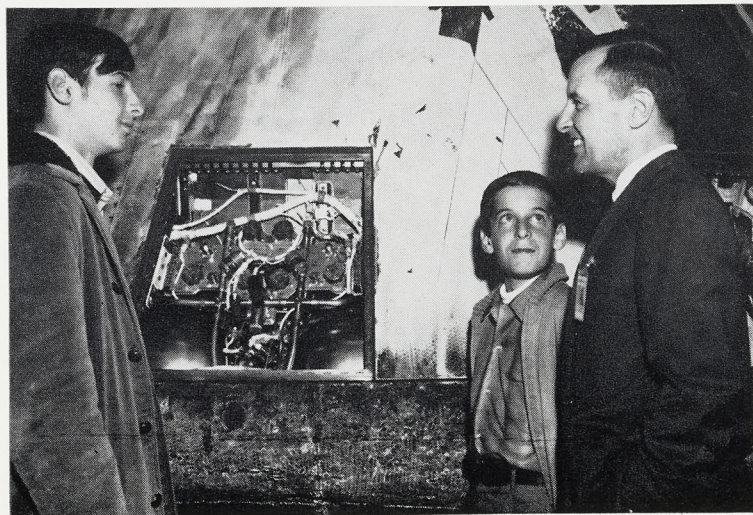
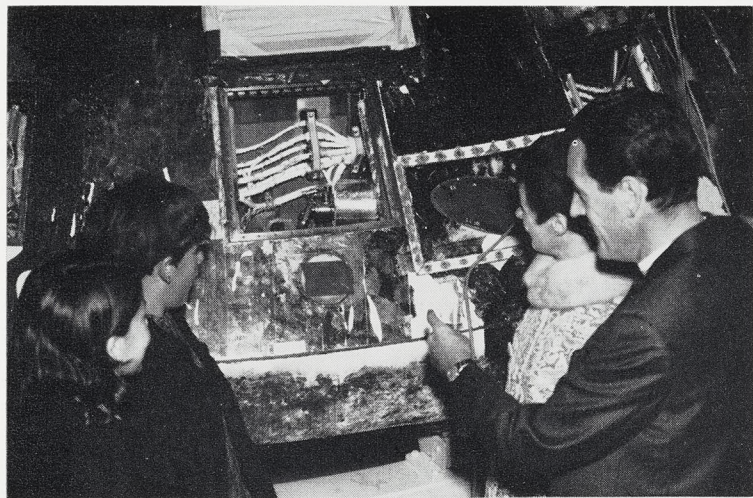
counter clockwise are Oscar Cease, Santiago Colunga, Dick Kipp, Gary Porter, John Simpson and Bob Wondka. Enlarged pin is shown center above. Presentations were made at North American Rockwell's Downey facility.



**HOME FROM SPACE**—When the Apollo 7 spacecraft was returned to North American Rockwell's Downey facility, select Northrop Ventura men and their families were invited to view it. At left above, Dick Kipp explains how components from the



disassembled Ventura-built Earth Landing System function. At right above, Bob Wondka and his family gaze upward at the spacecraft's open hatch. Those invited played key roles in the design and development of the Earth Landing System.



**BEFORE AND AFTER** — Nortronics-built ALOTS system made the striking photo above as the Apollo 7 launch vehicle cleared the pad at Cape Kennedy en route to space. ALOTS provides above-the-weather resolution photograph

tracking for launches. At left above, Bob Boulanger points out Apollo 7 wiring system to his family. Left below is John MacCarley and his sons reliving a moment in history with the charred Apollo 7 spacecraft.



## Have You Made Special Plans For The Thanksgiving Holidays?



Mrs. Randel

**Fran Randel, switchboard operator, Nortronics Anaheim:**

I'm planning an outdoor Thanksgiving Day dinner. My family and I are taking our camper with the NRC Sundowners Club to Anzio Borrego Springs. The turkey is going with us. I don't know how I'll cook it, but I'll find a way. Roasted over a campfire if nothing better comes along.

**Art Howard, engineering coordinating analyst, Norair:**

I guess you could say I'll be doing something special. I'm going to San Francisco to scout for talent for my new part-time talent consultant service. I'll be looking for singers, dancers, models and other talent for MGM Studios.



Mr. Howard



Miss Boicourt

**Martha Boicourt, IBM keypunch operator, Ventura:**

I plan to be married shortly before the holidays so by the time our people are reading this I'll be on my honeymoon, probably somewhere near the ocean. But, I'll be back at the job in December.

**Barbara Andreen, secretary, Norair:**

I have a cousin in New York whom I haven't seen for nine years who'll be coming for our Thanksgiving reunion with his wife and two children. Also, I'll have my aunt, uncle and two grandmothers plus another cousin with his wife and five children. Then there's my mother and my three children and dog who is due to have puppies before Thanksgiving. She always has seven. That makes about 27 for dinner.



Barbara Andreen



Mr. Basford

**Harry J. Basford, Indirect Budget, Nortronics Palos Verdes:**

I have no special plans other than that I consider every Thanksgiving special. I'm a traditionalist. I plan to have turkey with all the trimmings along with the company of my family and friends. I'll find another time to travel.



Mrs. Millner

**Tishia Millner, Paint Shop, Ventura:**

We have friends in Torrance who have the same wedding anniversary date as my husband and I and every Thanksgiving we alternate sharing our dinner together. This year they're coming to our house in Oxnard.

## YOUNG ANAHEIM LENS MAN WINS HIGH HONORS IN COUNTY FAIR COMPETITION

Michael Fredette, son of Al Fredette, horizontal jig bore mechanic at Nortronics Anaheim, took 30 out of 35 possible points in the Los Angeles County Fair photography competition.

Michael's prize-winning photograph of a tongue-licking cat was taken with a Miranda camera he bought on advice of the NRC Camera Club.

According to his father, Michael decided exactly what he wanted in the picture, set up the camera and then waited patiently for two-and-a-half hours for the cat to assume just exactly the right pose.

Originally the sixteen-year-old boy was interested in astronomy. He asked Harry Dent, NRC Camera Club commissioner, for advice about a camera to use in taking pictures through his telescope. He had no previous photographic experience, but became so enthusiastic over the camera

that he now wants to be a professional photographer.

## LAST HAWAII TOUR MEETING BOOKED

Northrop travelers planning to take part in NRC-sponsored tours to Hawaii over the long year-end holiday will hold their final organizational meeting December 6.

This meeting, set for Dandel's Restaurant, 12000 Western, Los Angeles, at 8 p.m., will provide final information and cover tour highlights.

Two options are open, a 12-day tour departing December 21 and an eight-day tour departing December 25. A few openings are available on the latter and a standby list is being maintained on the former.

Tour brochures and information are available at all Northrop Personnel Activities outlets.

## VOLCANOS TO WHALES

# Hank Young Seeks Worldwide Adventure

Hank Young likes places no one has been before—and the urge has taken him from an almost inaccessible lake in Costa Rica to the slope of an erupting volcano.

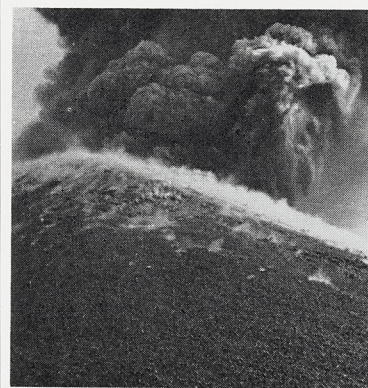
In between he visited a unique island prison in Mexico, got chased by a sea elephant on uninhabited San Benito Island, and made the first pictures of a "flying" manta ray. His adventures have been recounted in *Life*, *True*, and the TV program, *I Search for Adventure*.

Hank, now with the Deep Submergence Systems Project, Palos Verdes, joined Northrop in 1951. Eighteen months later he quit to seek adventure in a 38-foot boat.

The first adventure was making the first photos of a remote lake in Costa Rica. Then with John Pugsley, whom he met at Northrop, he climbed Izalco volcano in El Salvador, Central America.

Izalco is an explosive type vol-

cano. It does not erupt lava, but hurls out a constant rain of rock. The two adventurers decided to risk the falling rock. They started



*ERUPTING VOLCANO, a photo taken by Hank Young from a position closer to summit than anyone had dared to go before.*

climbing, one watching the sky for falling rock while the other kept watch for larger boulders

rolling down the hill. Thus dodging and climbing, they got to the protection of a basalt outcropping two-thirds up the cone. It was farther than anyone had climbed before.

Under partial protection of the outcropping, they made pictures and—more important scientifically—tape recordings of the subterranean rumblings.

By this time it was night. A descent was impossible. They set up camp. Shortly after witnessing a spectacular night eruption, they were hit by a violent storm.

The tent was knocked down. Hank fell on his cameras to protect them from the pounding rain. Despite the gale wind, rain, bitter altitude cold, and hot falling rock, they survived the night. In the morning they climbed down. Soon after they left the protective outcropping, it was smashed by a giant incandescent boulder.

The adventure was described in *True Magazine*. It later won an award as the best TV adventure film of the year.

Hank returned to Northrop in 1958 and now confines his adventuring to vacation time. In 1957 he was elected a member of the exclusive Adventurer's Club. He is also a member of the Seven Seas Cruising Association. He lives with his wife, Diane, and a Siamese cat on a boat anchored at Redondo Beach with the world's biggest backyard—the Pacific Ocean.

His latest project is a Christmas expedition to a remote bay in Baja California, where gray whales migrate. After this he has other plans. He doesn't know where yet—but doesn't care just so it is so remote no one has been there before.



HANK AND DIANE YOUNG WITH FRIEND

## Armstrong Takes National Sabot Sailing Championship

Sailing a national class one design fiberglass boat he built at home, Thomas Armstrong took the Windward Sabot National Sailing Championship in a competition held at Channel Islands Marina, Oxnard, in October.

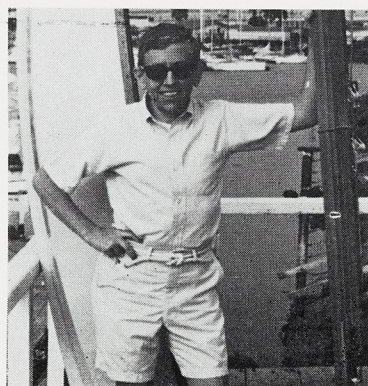
Mr. Armstrong competed against 50 other sailors in a "round the buoys closed course." He came in with one first place

finish and four second place finishes in a five race series to win on total points.

After the race, he said, "It was a great experience to win against such intense competition. Part of the pleasure is knowing I succeeded in building a boat of championship caliber, as this was my first attempt at boatbuilding."

This is his first championship in only two tries at national competition. He is also his yacht club's current Sabot class winner. He won in this class for the last two years.

Mr. Armstrong taught himself the basic skills of sailing by using rental boats at Newport Beach. After that, he bought an all teak 20-foot sloop which he owned for five years. During the last year he raced the sloop, he won all of his club's races with it.



MR. ARMSTRONG

## Summer Visitor Finds Inglewood 'Kindness' Tops

Inglewood, California, the home of many Northrop Corporation employees, received a special pat on the back in the "Letters" column of a recent New York Times edition.

In her letter, Mrs. Betty Kunofsky of Brooklyn, an Inglewood visitor last summer, enclosed a copy of a parking citation she received. It welcomed the recipient to Inglewood, explained the number of free parking lots available, noted a violation had occurred, and promptly forgave it. In addition, the citation invited the recipient to have a free cup of coffee at any one of a number of Inglewood restaurants.

Mrs. Kunofsky added: "It proves that, in certain parts of our country, visitors are treated with kindness, too."

## Rose Bowl Parade Trip Set by NRC

Northrop Recreation Club has arranged a special bus excursion to Pasadena's annual Tournament of Roses January 1.

The \$9 per-person charge includes roundtrip bus transportation and grandstand seats on the front lawn of Pasadena City College. The price does not include admission to the Rose Bowl grid classic.

Contact Personnel Activities, Plant One.



Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale	
Pickup, 1957 Chev., custom cab, 283, 3-spd., hvy. duty equip., 10,000 mi., \$2,100. 213-284-0768.	A
Mercedes Benz, 1969 220 diesel, auto. trans., \$4,550. 213-377-1075.	A
Pontiac, 1954 convt., p/s, p/b, \$895. 714-639-1365.	A
Station Wagon, 1959 Chev. Parkwood, \$350. 213-294-2810.	A
Porsche, 1959, \$1,795. 213-324-9373.	A
Porsche, 1957 912, 4-spd., chrome whls., \$4,500. 213-439-4600.	A
Mustang, 1966 G.T. h/top, many extras, \$1,900. 213-472-3625.	A
Pickup, 1964 Ford, custom cab, V-8, 192 eng., r/h, \$1,095. 714-827-7189.	A
BMW, 1960, 700 sedan, 4-spd., \$200. 213-395-5832.	A
El Camino, 1959, 327 Hydro, \$700. 213-679-8397.	A
Pickup, 1960 Falcon Ranchero, 1/4-ton, \$600. 213-677-4410.	A
Buick, 1967 Riviera, fully equipped, \$3,900. 213-672-7167.	A
Volkswagen, 1965 1300, radio, \$1,295. 213-346-3751.	A
Pickup, 1957 Chev., \$475. 213-326-8386.	A
Oldsmobile, 1964 F-85 Cutlass, Sport Cpe., p/s, p/b, \$900. 213-673-1566.	A
Station Wagon, 1965 Chev., a/c, \$1,900. 213-379-8090.	A
Pickup, 1964 Chev., 3/4-ton, 4-spd., a/c, hvy. duty suspension, many extras, \$1,400. 213-376-7849.	A
Ford, 1959, auto., \$200. 213-323-7509.	A
Mustang, 1966, 6-cyl., auto. trans., 8-track stereo tape, \$1,500. 213-329-9046.	A
Chevrolet, 1965 Impala, 4-dr. h/top, 327, auto., p/s, p/b, r/h, \$1,350. 213-676-9488.	A
Ford, 1955 Fairlane, 292 V-8 eng., auto. trans., r/h, \$200. 213-675-7403.	A
T-Bird, 1963, p/s, p/b, a/c, \$975. 213-325-3724.	A
Station Wagon, 1957 Chev., \$275. 213-329-5079.	A
Pontiac, 1957 4 star Star Chief, r/h, p/b, p/s, auto. trans., \$195. 213-644-6718.	A
MGB, wire whls., many extras, \$1,675. 213-670-3762.	A
Dodge, 1960 4-dr. Phoenix, r/h, auto. trans., \$295. 213-754-8092.	A
Station Wagon, 1958 Plymouth, 9-pass., \$295. 213-379-7342.	A
Mustang, 1966 2+2, 4-spd., big eng., \$1,695. 213-377-7670.	A
MG TD, 1953, new clutch & trans., \$850. 213-328-1987.	A
Station Wagon, 1966 Ford, Country Sedan, p/s, stereo, auto. trans., \$2,200. 714-871-1990.	A
Ford, 1968 Galaxie, 2-dr., Landau top, p/s, r/h, auto. trans., p/disc brakes, 390 eng., \$2,800. 714-549-3190, 213-672-0426.	A
Lincoln, 1961 Continental, full power, \$1,000. Box 2301.	A
Buick, 1959 2-dr. h/top, full power, a/c, \$595. 213-326-1856.	A
Chevrolet II, 1966 Nova, 2-dr. h/top, auto. trans., \$595. 213-862-3027.	A
T-Bird, 1961, all power, \$800. 213-324-6484.	A
Chevrolet, 1965 Impala S.S., 2-dr. h/top, 327 V-8, auto. trans., p/s, p/b, fact. air, r/h, \$200 & take over \$76 mo. pymts. or \$2,000. 213-674-8114.	A
Morgan, 1965 4 rdstr., heater, AM/FM radio, extras, \$3,000. 213-396-3594.	A
T-Bird, 1957, all power, h/top, w/portholes, r/h, \$1,600. 213-679-7840.	A
Comet, 1961, 2-dr., 6, stick, \$225. 213-374-8358.	A
Station Wagon, 1962 Chev. Impala, 6-pass., auto. trans., r/h, p/s, a/c, \$750. 213-476-1842.	A
Cadillac, 1959 sedan DeVille, a/c, p/b, p/s, \$475. 213-828-3268.	A
Datsun, 1967 1600 roadster, \$1,700. 213-830-6038.	A
Buick, 1962 Electra 225, 2-dr. h/top, fully equipped, \$850. 213-324-2992.	A
Chevrolet, 1955 4-dr., V-8, auto. trans., \$100. 213-756-1623.	A
Chevrolet, 1965 Super Sport, auto. trans., p/s, radio, \$1,695. 714-826-2209.	A
Mustang, 1967 Fastback, 289 2+2, p/s, fact. air, auto. trans., \$2,150. 213-672-3724.	A
Pickup, 1962 Ford, 1/2-ton, \$795. 213-676-0726.	A
Plymouth, 1959 Belvedere, 2-dr., auto. trans., V-8, \$250. 213-846-5589.	A
Chevrolet, 1957, 2-dr., eng. needs work, \$125. 213-672-5872.	A
Chevrolet, 1958, V-8, 4-dr., p/s, auto., \$300. 213-675-6963.	A
Volvo, 1959, 4-spd., r/h, \$375. 714-839-3058.	A

Automobiles For Sale	
Corvette, 1957 395 h.p., 427 cu. in., 4-spd. trans., radio, 2 tops, posi. rearend, \$3,800. 213-776-3617.	A
Station Wagon, 1960 Ford Country Sedan, p/s, p/b, r/h, auto. trans., 352, 4-bbl. carb., \$200. 213-370-2876.	A
Falcon, 1963 Futura, 4-spd., \$750. 213-676-2803.	A
Austin Healey, 1959 Sprite, good tires, \$450. 213-674-9627.	A
Household Items For Sale	
Rug, 9x12 beige, wool, \$20. 213-327-6918.	B
Davenport, brown, 9', \$50. 213-833-9829.	B
Stove, Gaffers & Sattler, 31", bronze-top, \$75. 213-677-6948.	B
Desk, 40"x18 1/2", maple, 7 drwrs., pad & chair, \$15. 213-329-2016.	B
Coffee Table, Lane, oiled walnut, 6' long, \$35. 213-377-9666.	B
Mattresses for bunk bed, \$25. 213-831-2878.	B
Couch, 8' modern, newly uphol., \$80. 213-962-2121.	B
Refrigerator, frostless, 16 cu. ft., 1 yr. old, coppertone, \$200. 213-327-3795.	B
Bed, dble., foam mattress, box spring & frame, \$40. 213-826-4172.	B
Range, Gaffers & Sattler, gas, \$65. 213-644-8075.	B
Range, 6-burner, dble. oven, \$80. 213-755-8542.	B
Dishwasher, portable, RCA Whirlpool, white, 3 mos. old, \$150. 213-679-0555.	B
Dishwasher, portable, 1967 GE, white, \$90. 213-645-5786.	B
Refrigerator, 9 cu. ft., Admiral, \$25. 213-679-7996.	B
Dryer, Sears Kenmore 500, gas, 6 mos. old, \$120. 213-644-8115.	B
Dryer, Speed Queen, gas, \$45. 213-374-4944.	B
Washer, Maytag, auto., \$100. 213-678-6071.	B
Washer, Kenmore, \$20. 213-370-4475.	B
Box Spring, mattress, frame, twin size, \$15. 213-823-1910.	B
Dishwasher, Kitchen Aid portable, white, \$150. 213-322-5930.	B
Dinette Set, chrome, 4 matching chairs & 2 odd chairs, \$30. 213-542-4091.	B
Hutch, Salem maple, w/extending table, seats 10, \$100. 213-862-8215.	B
Desk, 40x20, 2 drwrs., 2 shelves, black w/ gold tole design, matching bench, \$25. 213-378-2369.	B
Couch, Early American & chair, take over \$17.42 mo. pymts. or \$245. 213-835-3665.	B
Refrigerator, 10 cu. ft. Admiral, coppertone, \$65. 213-541-1226.	B
Sewing Machine, White elec., mahogany cabinet, \$35. 213-752-6379.	B
Box Spring, queen size, mattress, \$75. 213-661-0515.	B
Dining Room set, wood, lge., extension, \$35. 213-371-6775.	B
Mattress, Simmons, box springs & frame, few mos. old, \$90. 213-674-8361, 213-645-8067.	B
Dresser, child's, Bassett, \$50. 213-376-4831.	B
Rug, 12'x13" beige wool, w/pad, \$50. 213-644-7179.	B
Miscellaneous For Sale	
Ski Boots, men's, Austrian, size 10, \$50. 213-545-6847.	C
Surfboard, Jacobs semi-speed, 9'6", \$75. 213-676-4492.	C
Exerciser, Stauffer, \$95. 213-325-6546.	C
Violin, w/case, \$75. 213-679-2864.	C
Saber Saw, \$7.50. 213-324-4817.	C
Chain Saw, hvy. duty, 7 1/2 h.p., less than 10 hrs., \$150. 213-532-6109.	C
Lot, Lake Arrowhead, 1/3 acre, country club privileges, utils. & sewers in, trade 2nd t.d., \$10,500. 213-457-9186.	C
Rifle Scope, Bushnell 3-9 variable, w/mounts, \$25. 213-860-2305.	C
Acreage, 2 1/2 acres, Antelope Valley, \$42 dn., \$42 mo., no int. \$4,200. 213-378-1026.	C
Airplane, Cessna 140, all metal, 270 hrs. s.m.o.h., 2 radios, \$2,350. 213-839-6084.	C
Fencing, 50' x 36" lath & wire, \$10. 213-370-7092.	C
Camera, Miranda D w/f1.5 auto. 50mm & 135mm telephoto lens, \$100. 213-377-4230.	C
Slide Projctor, Braun, 35mm, \$75. 714-523-2495.	C
Piano, black enamel, w/mirror, cut down upright, bench, \$225. 213-324-7730.	C
Motorcycle, Honda 305 Super Hawk, \$150. 714-673-5587.	C
Hi-Fi-Phono. Set, Trompact console, \$35. 213-757-5181.	C
Motorcycle, Lilac LS-18, 250 cc, \$200. 714-521-5359.	C
House, 2-bdrm., on 45x140 R2-1 corner lot, close to Northrop, \$22,500. 213-675-6895.	C
Tires, 2 8.25x14, on 5-hole Ford rims, \$25. 213-377-1008.	C
Sailboat, 9 1/2' Teacup class, dacron sail, cartop carrier, \$150. 213-321-1655.	C
Camera, 35m Kowa SLR, f1.9, CD-S meter & case, \$100. 714-637-0683.	C
Razor, Norelco, triple header, mod. 35T, \$12.50. 213-328-5655.	C
Engine, 368 cu. in. Lincoln, 100 miles since rebilt. & Fordomatic trans., \$450. 213-676-3095.	C
TV, 23" b&w, Danish walnut console, remote control, \$75. 213-326-5731.	C
Motor, Johnson, 1968 10 h.p., w/cart & 2 gas tanks, \$300. 213-672-4447.	C

Miscellaneous For Sale	
Mini Bike, 3 h.p. eng., brakes & fenders, \$95. 714-847-0648.	C
Motorcycle, 1962 Triumph Bonneville, 650 cc, \$675. 213-644-3126.	C
Movie Camera, exposure meter, Bell & Howell, \$7.50. 805-495-9647.	C
Air Conditioner, portable elec., water cooled, stand on rollers, \$20. 714-528-2382.	C
Boat, 16' Glasspar Avalon custom, 75 h.p. Johnson electromatic motor, American trailer w/15" whls., \$1,400. 714-595-4500.	C
House, 2-bdrm., on R-3 lot, Hawthorne area, \$16,500. 213-645-9522.	C
Saw, Craftsman 8", incl. 5 blades, 1 h.p. h/d motor, extras, \$100. 213-371-1086.	C
Organ, walnut, Gulbransen console, transis., full size keyboards & pedal, \$1,500. 213-721-4363.	C
Tires, Firestone 500, 7.75x14, tubeless, w/w, \$35. 213-679-5165.	C
Lot, 82'x330', level, electricity, water, near Lake Isabella, \$2,500. 714-532-1361.	C
Airplane, 1966 Cherokee 140, 4 seats, 960TT on 2,000-hr. eng., full panel, Mark 12, lease back avail., \$7,500. 213-373-4153.	C
Water Tank, 20-gal., used approx. 1 mo., \$20. 805-497-3101.	C
Saxophone, B-flat tenor, Beuscher, \$135. 213-377-3806.	C
Snare Drum, Gretsch, 8 lugs, case & stand, \$50. 213-325-3452.	C
Lot, Lake Elizabeth, 50'x101', 2 water shares & lifetime club membership, \$2,500. 805-482-7026.	C
TV, 24" console, Packard Bell, Danish modern, AM-FM radio, phono., solid walnut cabinet, \$150. 213-675-2735.	C
Skis, bindings, boots & poles, for 4-6 yr. old, \$6. 213-377-6648.	C
Camera, Argus C-3, leather case, flashgun, Soligor 135mm f:4.5 telephoto, \$45. 213-835-4957.	C
Bunks, 2 foldup type, \$25. 213-327-8927.	C
Motorcycle, 1965 Honda Super 90, \$160. 213-293-9594.	C
Pups, beagle, AKC reg., \$40. 213-675-3931.	C
Motorcycle, 1966 Triumph Bonneville, 650 cc, \$900. 213-363-3843.	C
House, 3-bdrm., 2 baths, bltins, h/wood floors, f/place, sprinklers, fenced yd., \$1,550 dn., FHA, \$22,850. 714-531-4287.	C
Lot, improved, over 1 acre, Palos Verdes Ests., \$45,000. 213-375-2255.	C
Ski Boat, Schiada, deep vee 17', 283 Chev., \$2,800. 213-545-4783.	C
Communication Receiver, Hallicrafters S-85, \$50. 213-426-4060.	C
Train Layout, H.O., approx. 60 cars, 5 engs., misc. equip. on 4'x10' panel, \$80. 213-291-0025.	C
Go Cart, \$110. 213-374-8608.	C
Trailer, 15 1/2' Field & Stream, sleeps 5, \$600. 213-371-3781.	C
Receiver, Hallicrafters SX-99, 4 bands, w/manual, \$70. 213-839-5438.	C
Honda, 1966 305 Scrambler, \$350. 213-322-0246.	C
House, 3-bdrm., 1 1/4 baths, dble. f/place, cpts., dps., recently repainted, \$36,000. 213-371-9925.	C
Guitar, elec., amplifier, \$75. 213-323-4288.	C
Gun, Winchester Mod. 94, 30-30 custom re-coil pad & sling, \$85. 213-324-7442.	C
Movie Camera, \$15. 213-377-4317.	C
House, 3-bdrm., family rm., 1 1/4 baths, bltins, f/place, patio, N. Torrance, \$29,500. 213-323-6018.	C
Walkie-Talkie, 1 set, Sony, \$40. 213-327-5376.	C
Stereo, walnut portable, AM-FM, all transis., \$55. 213-327-2447.	C
Cemetery Lot, 2, Pacific Slope sec. of Inglewood Pk., dble. interment, \$875 ea. 213-370-7526.	C
Pistol, 9mm Astra, mod. 600, holster, extras, \$45. 213-679-1215.	C
Mobile Home, 8'x27', awning o/patio, comp. furn., walking distance to Northrop, \$1,000. 213-644-3084.	C
Sailboat, 11' Centerboard, extras incl., \$275. 213-325-4094.	C
Pup, English pug, w/papers, had all shots, \$150. 213-326-6195.	C
Drafting Table, hvy. duty 48"x60" tilt top board, w/lamp, \$50. 714-828-4942.	C
Bicycle, girl's, 2-spd., \$15. 213-429-7879.	C
Mini Bike, 8 h.p. West Bend, \$135. 213-393-5649.	C
Pups, German shepherd, \$25. 714-827-7415.	C
Lot, 25'x100', Big Bear City, level, trees, paved road, all util., \$1,350. 213-598-3072.	C
Gun, 38 Colt, detective spec., steer horn grips & holster, \$75. Box 2302.	C
Road Race Set, Eldon 1/32 Gold Cup, extras, \$15. 714-626-1597.	C
Motorcycle, Triumph Bonneville, 650 cc, \$575. 213-671-3907.	C
Boat, 14' Glasspar Marathon, 50 h.p. Merc., Wallstrong trailer, extras, \$930. 213-422-9035.	C
Trailer, 16', Santa Fe, sleeps 6, seats 10, many extras, \$795. 213-375-7265.	C
Encyclopedias, complete Funk & Wagnall, \$10. 213-675-7316.	C
Motorcycle, 500 cc BSA, B34 single, \$150. 213-423-5956.	C
Baby Equipment, \$60. 213-371-1949.	C
Guitar, elec., w/amplifier, \$65. 213-323-2289.	C
Guitar, Kawai concert, \$55. 213-676-5291.	C

Miscellaneous For Sale	
Dog, Labrador retriever, female, 10 mos. old, AKC, \$150. 213-347-6133.	C
Piano, Clarendon upright, \$175. 714-535-6990.	C
Transceiver, Eico 753, factory wired, power supply, other misc. gear, \$180. 714-639-4438.	C
Pups, cocker spaniel, AKC, \$65 & up. 714-546-3839.	C
Light Fixture, 3 lights, brass, goes w/maple, \$15. 213-423-1363.	C
Chain Saw, hvy. duty, Homelite, \$95. 213-375-0915.	C
Power Tool, Shopsmith, incl. saw, drill press, lathe, \$135. 213-645-1523.	C
Amplifier, Fender Bassman & bass guitar, Gibson solid body, \$325 or sell sep. 213-329-4918.	C
Snow Chains, hvy. duty, for 6.00-13 - 5.60-13 tires, \$7.75. 213-377-5933.	C
Engine, 1958 Imperial, 392 cu. in. Heml, Tourgeffite trans., \$150. 213-370-4315.	C
House, Rolling Hills Ests., 2-bdrm., convt. den, 2 baths, f/place, bltins, cpts., dps., \$39,500. 213-375-8149.	C
Engine, VW, 1500 cc displacement, complete w/all access., \$200. 213-396-6739.	C
Surfboard, 9'10", \$75. 213-541-1944.	C
Apt, 4-unit, 1 block from Norair, 4 yrs. old, low dn., \$64,900. 213-675-5181.	C
Hearing Aid, Zenith Delegate B, \$100. 213-378-5175.	C
TV, 23" b&w, stereo record player comb., Sears, \$50. 213-672-2370.	C
Snowmobile, 1967 Polaris Colt 140, 15 h.p. 300 cc Hirth eng., trailer, \$795. 714-838-7161.	C
Door, 42" solid core, w/hardware & Schlage lock, \$30. 213-377-4198.	C
Camlifters, Erson 320 F, for Chev., \$40. 213-639-6653.	C
Ski Boat, 14', outbd., hull & trailer, \$400. 213-329-4414.	C
Camera, Kodak, Instamatic, mod. 154, color outfit, used once, \$19.95. 213-371-6328.	C
Theatre Tickets, 2, N.Y.C. opera, Nov. 28, 8 p.m., Les Contes D'Hoffman in French, \$10. 213-393-3837.	C
Sailboat, 28' wooden sloop, inbd. eng., dacron sails, sleeps 4, \$4,900. 213-378-4352.	C
Home, 2-bdrm., 1 bath, kitchen remodeled, new paint, cpts., dps., dble. det. gar., lge. yd. w/brick walls, 10% dn. or take over existing loan and 6 3/4% int., \$19,500. 213-323-2753, 213-325-0693.	C
Home, Palos Verdes Pen., 4-bdrm., 2 baths, 8 yrs. old, new paint outside, G.I. financing 5 1/4%, \$37,000. 213-676-5425.	C
Motorcycle, Yamaha, 250 cc, \$325. 213-322-5097.	C
Wig, platinum blonde, \$80. 714-539-0387.	C
Wanted to Buy	
Train Track, for American Flyer. 213-675-6325.	D
Dinghy & Motor, small, seprate or both, in good condition. 213-327-4356.	D
Refrigerator, in good condition, w/lge. freezer compartment, up to \$50. 714-548-0308.	D
Drafting Machine. 213-373-3128.	D
File Cabinet, 2 or 4-drwr. 213-326-7528.	D
Gun, 357 cal. Ruger Blackhawk, reasonable. 213-323-4257.	D
Cabin Cruiser, 4-berth, fiberglass, w/trailer. 213-378-5494.	D
Sewing Machine, Pfaff 130 or 230 model. 213-328-6274.	D
Trailer Hitch for station wagon. 213-378-4959.	D
Outboard Motors, 3 30 to 40 h.p., long shaft models desired but not mandatory. 213-644-3424.	D
Ceramic Kiln, 24" to 36" & ceramic wheel, good condition. 714-897-8447.	D
Belt Vibrator, 1/4 h.p. hvy. duty preferred. 213-788-8293.	D
Free (To Be Given Away)	
Dog, AKC, wire-hair fox terrier, female, 3 1/2 yrs. old, to mature couple w/no children or pets. 213-783-0518.	F

Rides and Riders	
Rides Wanted	
7 a.m. — 3:42 p.m.	
Moorpark & Thousand Oaks, Newbury Park. D. R. Licata, Mariposa ext. 4086, 805-498-1235.	
Free (To Be Given Away)	
Dog, German shepherd, male, 5 yrs. old. 213-378-2965.	F
Pup, German shepherd & husky, 8 wks. old, w/frosted black. 213-337-6004.	F
Rentals Offered	
Apt, 3-bdrm., patio, utils. pd., 4 blocks to Northrop, \$210 mo. 213-833-2512.	G
Cabin, Big Bear Lake, sleeps 9, \$25 w/end. 213-867-0662.	G
Apt, 1-bdrm., furn., \$90. 213-679-2121.	G
House, 2-bdrm., newly decorated, water & trash pd., cpts., dps., fenced yd., no pets, avail. Dec. 1, \$140 mo. 213-675-5493.	G
Exec. Condominium, 4-bdrm., 3 baths, dps., cpts., bltins, pool & rec. facilities, \$325 mo. 213-525-5609.	G
Cabins, Idyllwild, 1 & 2 bdrms., f/place, stream, patios, \$20-\$35 w/ends; \$45-\$75 wk. 213-754-5288.	G
Child Care	
Child Care offered, my home, weekdays, under 1 year preferred. 213-644-8560.	I
Child Care offered, my home, fenced yd., licensed. 213-676-3846.	I
Personals	
My sincere thanks & gratitude to my many friends at Northrop for their kindness throughout the years & on my retirement. CARL G. FULLER.	
Anyone from Hawthorne High School class of 1959 call 213-376-7864 regarding 10-year reunion dance.	
For Sale or Trade	
Lot, 80x165, facilities in, \$8,000 or trade for comparable land. 213-324-8891.	M
Camp Stove, Coleman, 2-burner, gasoline, \$7 or trade for CO2 pellet or BB pistol. 213-679-1631.	M

Colonel Williams Comm



## SNOOPY—Apollo Astronauts Award Professionalism, Excellence

(Continued from page 1)

is showing up in more places than lapel pins. It became the official emblem of the Apollo 7 mission, commanded by Astronaut Schirra, and is frequently seen on posters and bumper stickers.

The coveted NASA awards are made to selected employees who have demonstrated professionalism and excellence in the engineering, manufacture and quality assurance of hardware destined for use in NASA's Manned Space Flight program. At Northrop Ventura, nominations for the award are made by the Apogee Club steering committee.

In addition to the lapel pin, Snoopy laureats received commendations from NASA's Astronaut Office, located at the Manned Spacecraft Center, Houston.

Mr. Cease, a Quality field representative since the beginning of Apollo program, was commended for his contributions to the successful qualification of the Apollo Earth Landing System at El Centro.

Mr. Colunga, a Parolab foreman in charge of Parachute Packing Operations, was told, "We in the Astronaut Office who have participated in manned space flights are all agreed that one of the most rewarding sights we have ever seen has been that big red and white parachute as it unfurls on the way home. We are confident that the same craftsmanship which went into past landing systems will be evident again during manned Apollo flights."

The Astronaut Office singled out Mr. Kipp, engineering specialist, for his "mature judgement and technical expertise," as the key working design supervisor for the majority of Apollo Earth Landing System hardware.

"The proven reliability of that hardware is a further tribute to your efforts and those of your fellow designers," the commendation said.

Project Administrator Gary Porter of Production Operations, was credited by the astronauts with many thousands of dollars in savings on the Apollo program "which can be traced to your alert and decisive actions."

Mr. Simpson, Quality Assurance program leader for the past two years, was praised for his "outstanding job in the coordination of inspection activities and the diplomatic resolutions of differences when they have occurred, between the numerous design and production functions contributing to the landing system."

Mr. Wondka, chief project engineer for the Apollo Earth Landing System, was commended for his work in assuring compliance of technical commitments with schedule, budget and engineering excellence.

"It is through the efforts of men like you that American astronauts will soon be standing on the moon," the letter concluded.

### FAMILY DAY

(Continued from page 1)

Landing System will be on exhibit.

The NVRC will have sporting and hobby exhibits set up in the cafeteria and members of the various clubs will be on hand. The Rockhound Club will present souvenirs. Every girl will receive a tumbled rock necklace and there'll be rock pocket pieces for the boys.

Souvenirs will be given to adults and children and the cafeteria will be open all afternoon with free coffee, punch, ice cream and cookies.



*THE AZTEC AWARD, a symbol of recognition for the efforts of Northrop Ventura to serve the employment needs of the Mexican American, was presented to John Bason, employment interviewer, by Joe Aguiano, Mexican American job developer with the Mexican American Opportunity Foundation. The statuette is a reproduction of a colossal figure that, along with three others, supported the roof of the main temple of the city of Tula, Mexico, in the time of the Toltecs. It is on display in the Personnel area.*

## New Officers Elected by Ventura Recreation Club

New officers were elected last week to the Northrop Ventura

Recreation Club Council for 1969, according to outgoing President Zack Silvers.

### CHEST X-RAY LAB ENDS VISIT TODAY

Today is the last opportunity to receive a chest X-Ray during work hours at Northrop Ventura.

The Mobile Chest X-Ray Service Lab will complete its visit at the conclusion of today's assigned appointments.

Employees who received X-Ray cards with a recent timecard, but who have failed to request an appointment may phone Medical Services, ext. 234, to determine if scheduling permits a last minute X-Ray.

Any available appointment times will be filled on a first-come, first-served basis. No X-Rays will be taken without an appointment.

### CONTRACT

(Continued from page 1)

hour cost-of-living allowance will be added to each employee's pay rate.

Certain employees will be eligible for special scale adjustments ranging from 7 to 23 cents an hour depending upon labor grade.

An automatic rate progression plan allows for an automatic increase of 5 cents an hour in pay rates for each 16 weeks of uninterrupted service until the rate range maximum is reached.

Improvements in Northrop's fringe benefit plan, historically one of the best in the aerospace industry, includes increases in company paid life insurance, company paid medical insurance for dependents, and increases in hospital benefits, maternity coverage, survivors insurance, surgical benefits and the company's major medical plan. A dental plan will take effect in 1970.

Retirement benefits will be increased, as well as pensions and medical insurance for those already retired.

Northrop Ventura employees will get an additional holiday beginning in 1969, bringing the annual total to 11.

through the ranks of management to Corporate vice president and Division manager and later to senior vice president has been in the best tradition of the American system. The company is stronger as a result of his efforts. I share with all Northrop employees the highest and warmest regard for Mr. Nolan and I will miss his strong support."

Mr. Nolan became senior vice president in May 1965 after having been named Corporate vice president, Manufacturing and Administration in 1964. Before moving to Corporate headquarters, he was Corporate vice president and general manager of the Norair Division for six years during which time the T-38 and F-5 airplane programs were brought to full production, meeting all goals of performance, schedule and cost.

Mr. Nolan was responsible for establishing the company's original facility in Anaheim in 1951. He assembled the first Anaheim organization, obtained its plant site, building and equipment, and placed in production a new pro-

## Ventura Apogee Club Gets Six New Members

Membership in the Northrop Ventura Apogee Club has increased with the awarding of six new certificates.

Presentations were made to Stephen Downey, program administrator of Contracts; the late Augustine Garcia, former leadman in Pattern Making and Cutting; Warren Gran, Fluid Dynamics engineer; Florence Johnson, Production planner; Richard Roberts, senior Quality Control planner; and John Wells, project engineer.

The award for Mr. Garcia, who passed away prior to the presentation, was received posthumously by Mrs. Garcia.

The Apogee Club, now numbering 31, is composed of those employees who have made significant contributions to the Apollo program.

## Management Club Plans Final '68 Dinner Meeting

The final Northrop Ventura Management Club dinner meeting of 1968 will be held Tuesday, December 3 at 6:30 p.m. at the Los Robles Inn in Thousand Oaks, according to Ron Lancaster, club president.

A cocktail hour at 5:30 will precede the dinner.

The featured speaker for the evening will be from North American Rockwell's Space Division in Downey. His subject will be "Apollo Up To Date." He will discuss the Apollo program with specific emphasis on Northrop's contribution.

In the brief business meeting preceding the speaker, nominations will be taken for new officers for 1969. Mr. Lancaster has encouraged all members to be present for this important function.

Those placed in nomination will be voted on during December and the winners will be announced before the yearend holiday.

## DOUGLAS—Ricketts Named Northrop Carolina President

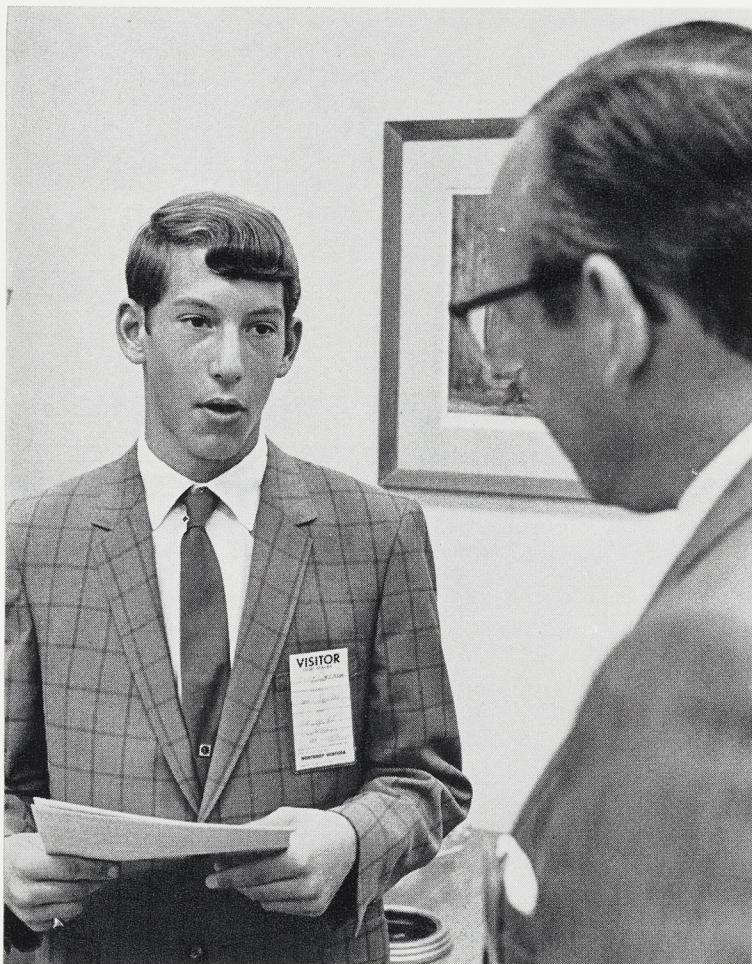
(Continued from page 1)

duct line—precision optical range finders for the U.S. Army.

Mr. Douglas joined Northrop in 1953 as assistant chief project engineer. He progressed to assistant chief engineer and to assistant general manager, Norair Division, and became vice president of Engineering at the Norair Division in 1957. In 1961 he was elevated to the office of Corporate vice president and general manager of the Ventura Division.

At Ventura, Mr. Douglas was instrumental in identifying new product areas and in moving the division into new, long-lived programs that have contributed to the present growth of the division. He was appointed president of Northrop Carolina in June 1967.

Mr. Ricketts joined Northrop in 1951 as a staff assistant. He progressively advanced to plant engineer, factory manager, director of Materiel, director of Operations and, in 1965, deputy manager of the Anaheim department. In his 17 years at Northrop Anaheim he has had a prominent role in developing the Anaheim department's outstanding record for high quantity, diversified production.



*FIRST SALE of a Junior Achievement stock certificate in the new JA company CONICO, counseled by Northrop Ventura, is made by Jeff Brambir of Thousand Oaks High School to M. A. Maurer, vice president and manager of Production Operations. Jeff and other achievers from Thousand Oaks and Newbury Park High Schools and Chaminade Prep School will manufacture and sell lint brushes and plastic pocket liners with badge holders. The products will be introduced to the market this month.*



# NORTHROP NEWS

NORTHROP EDITION

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ON THE BRIDGE—Captain P. N. Fielding, master of the container ship *Manchester Challenge*, uses Nortronics-developed Omega system on bridge of his new command. Omega was in initial use on commercial ship on vessel's first transatlantic voyage. Photo by Marconi International Marine, Ltd.

## British Skipper Praises Omega's Performance

The first Northrop Omega 1 navigation system receiver to be installed in a merchant ship has made its initial transatlantic voyage aboard the British-built *Manchester Challenge* of the Manchester Liners, Ltd.

The ship, also making its maiden voyage, sailed from Manchester, England, on November 5 and arrived in Montreal, Canada, on November 12.

Marconi International Marine Company, which installed the Omega receiver on the merchant vessel, said Omega 1 provided the vessel with a simple and reliable device to determine its position at any time to an absolute accuracy of better than two miles.

Transmitting stations, operating on 10.2 kHz, provided complete hyperbolic coverage of the North Atlantic trade route over which the new vessel sailed.

"Three lines of position were

automatically displayed on the receiver," a Marconi spokesman said. "This enables the ship's navigator to fix a position in about a minute."

Sy Shenkman, Omega field representative for Product Support, and Denny Bates, Marketing, Navigation department, Hawthorne, were in the group that welcomed the ship into port at Montreal.

Mr. Shenkman was also in Manchester for the departure and made a complete check of the Omega system before the ship sailed.

After the voyage, Captain P. N. Fielding, master of the ship, said, "Omega was very efficient, as accurate as it claimed to be, and very nice to have aboard."

(See OMEGA, page 2)

## Hallicrafters Discount Offer Still Available

Northrop personnel interested in taking advantage of pre-Christmas discount rates on Hallicrafters radios, amateur, short-wave and communication equipment are being reminded of one aspect of this offer.

Approximately 10-14 days are required for processing and shipping orders after receipt of the order at Hallicrafters' plant in Illinois. Thus, Christmas orders must be placed soon.

The Northrop subsidiary offers savings of up to 35 per cent over regular employee rates and as much as 60 per cent off list prices during this sale, which ends December 24.

Information and order blanks may be obtained from any Northrop Personnel Activities outlet.

## NASA Sends 'Well Done' For Apollo 7

Congratulations still are being received at Northrop for contributions made toward the recently successful Apollo 7 mission.

Most recent of these has come from the National Aeronautics and Space Administration in Washington, D.C.

In a letter from T. O. Paine, acting administrator at NASA, to Thomas V. Jones, president, the administration has expressed to Northrop, a major Apollo prime contractor, "NASA's deep appreciation for a job well done."

In his congratulatory message, Mr. Paine told Mr. Jones that Northrop has "helped write a proud new chapter in our country's space flight history, which has been favorably recognized throughout the world."

"We look forward confidently," said Mr. Paine, "to continuing steady progress toward our nation's lunar landing goal. I know we can count on you and your associates for that essential bit of extra effort required now to make these final critical missions as successful as Apollo 7."

In his response, Mr. Jones told Mr. Paine that "we are exceedingly proud to be a member of your team and to have been a part of this historic achievement." Mr. Jones emphasized that the employees at Northrop "fully recognize our responsibilities in connection with the final phases of our manned lunar landing program."

"I pledge to you," he said, "that all of our efforts will be devoted to insuring that each future mission is a complete success."



APOLLO 7 ASTRONAUTS Donn Eisele, Walt Cunningham and Wally Schirra took a moment in space to ask for cards and letters. The response from the Apollo Earth Landing System team at Northrop Ventura was this giant postcard, autographed by those who built the system that carried the crew to a safe splashdown. They received it in the astronaut office upon arrival back at the NASA Manned Spacecraft Center in Houston, Texas.



DOUBLE CELEBRATION—John A. Manke, NASA civilian research pilot, celebrates his 37th birthday with a slice from an HL-10-shaped cake following successful completion of first sustained rocket-powered flight of the Northrop-built HL-10 lifting body. Northrop's Sharna Higgins cuts more cake. NASA photo.

## Northrop-built Lifting Body Makes Rocket-power Flight

The National Aeronautics and Space Administration's (NASA) HL-10 lifting body, designed and built by Northrop Norair, has successfully completed its first sustained rocket powered flight.

John A. Manke, a civilian research pilot for NASA's Flight Research Center, was at the controls.

The November 13 flight lasted five minutes and saw the stubby, wingless HL-10 reach a top speed of 610 miles per hour and an altitude of over eight miles high.

The HL-10 was launched from the wing of a B-52 flying near Rosamond, west of NASA Edwards. Following launch, Mr. Manke ignited two of the four chambers in the HL-10's rocket engine. He reached an altitude of 43,250 feet approximately 184 seconds later when the rocket engine shut down as programmed from fuel exhaustion. He then glided to a landing on Rogers Dry Lake bed.

The HL-10 is one of several wingless craft that are under study for possible use as manned spacecraft of the future, capable of landing like a conventional aircraft.

The successful sustained rocket powered flight of the HL-10 was the 13th flight for the HL-10. Eleven of those flights were un-

powered flights in which the HL-10 was glided to a powerless landing from 45,000 feet altitude. On October 23 the HL-10 encountered ignition problems that resulted in an early shutdown of the rocket engine, with the lifting body carrying out a normal landing.

NASA has announced plans to gradually increase, in small increments, the performance of the HL-10. Eventually speeds in excess of 1,000 mph and altitudes of up to 80,000 feet are expected. This increased performance will be used to simulate an actual lifting body type spacecraft during the terminal portion of flight in its return to earth from outer space.

## USS Coontz Given Plaque By Northrop

Officers and crew of the destroyer USS Coontz received a plaque expressing the appreciation of Northrop Nortronics for outstanding performance during the first shipboard use of TEAMS.

TEAMS is the Test Evaluation and Monitoring Systems developed by Northrop Nortronics at Anaheim.

Making the presentation to Commander E. D. Geiger in a ceremony in San Diego were Jim Norman, chief, Applications Engineering group; M. B. Sawyer, TEAMS applications engineer, and Tom Barry, TEAMS program manager.

The plaque included a raised photograph of the USS Coontz and a legend expressing appreciation for the crew's "assistance with the installation and their enthusiastic support during operational evaluation."

It added that this contributed (See COONTZ, page 2)

## JONES TO ADDRESS MANAGEMENT CLUB

Thomas V. Jones, president, Northrop Corporation, will be the speaker at the December 13 dinner meeting of the Norair Management Club, Ralph Branning, club president, has announced.

Mr. Jones will discuss the current progress of the company and the long range projections for Northrop's continued growth.

The dinner meeting is set for 6 p.m. at the Airport Marina Hotel, Lincoln at Manchester.

## Northrop Families Active in Junior Football, See Page 3



## TV Tape Systems Open New Horizons In Northrop Technology Communication

A videotape recording and closed circuit television "network" has come to Northrop.

With the recent delivery of 10 videotape TV systems to East and West Coast facilities, Northrop now has the capability of exchanging technical information by means of magnetically recorded television tape.

### SERVING MANY

The systems acquired by Northrop Corporate Laboratories will be utilized in the east by the technical departments of Hallcrafters, Page Communications Engineers, Nortronics Precision Products Department, Northrop Carolina and Nortronics Huntsville and on the west coast by Norair, Northrop Ventura and Nortronics Hawthorne, Palos Verdes and Anaheim.

Each of the 10 "satellite" systems consists of: (1) a table-top Ampex videotape recorder which records or plays back picture and sound simultaneously on a one-inch band of Mylar base tape, (2) a viewfinder television camera mounted on a tripod which photographs the subject, feeding this image to the recorder for storage on tape, and (3) a 21-inch TV monitor for viewing or playback.

### PARENT STUDIO

A parent studio, with more sophisticated equipment than the "satellite" stations, including a tape duplicating capability, is in operation at the Corporate Lab-

oratories facility in Hawthorne.

An important function of the equipment will be to tape record a conference or meeting at one location and later play back the event for viewing at another. By simply mailing tapes between the TV-equipped facilities, Northrop technological ideas, laboratory developments and problems can be exchanged without having all participants gather at one location.

One of the first uses the 10 stations will make of their newly acquired tool will be to contribute individual presentations covering their facilities, operations and programs to a pool of pre-taped material for distribution within the corporation.

### NOVEL LECTURN

A unique and flexible piece of equipment at the NCL installation is an electronic lecturn with a builtin TV camera and two builtin eight-inch preview monitors. It has the capability of projecting live camera pictures either of the speaker or of slides and graphic material on two large room monitors while videotapes are made.

Both the TV camera mounted in the projection booth and the one built into the lecturn are equipped with 10-to-1 zoom lenses. Other equipment in the booth provides for superimposing one camera's picture over another and fading out of either picture.

These techniques may be employed in the recording of pre-

sentations, panels, conferences and seminars directly from the line output in the conference room onto tape. Spools hold one hour of recorded material. The system delivers near broadcast quality in resolution, and an audio and video presence almost equal to that of commercial TV station equipment.

### VERSATILITY

Each station will be able to record material broadcast on commercial TV directly from receivers, if necessary. Additionally, and important in the distribution of tapes throughout the network, the NCL parent installation has the capability of dubbing first generation copies of the master tapes. This means that technological material recorded in Hawthorne this morning could be seen by the west coast stations within two days and by all 10 stations two days later.

### OTHER USES

The systems have an infinite number of uses beyond the technological exchange of information, such as presentation rehearsal, training, monitoring of tests and dissemination of product support information, to mention only a few.

### SPECIAL EDITION

Because of the long Thanksgiving weekend, this single edition of the Northrop News is being distributed to all divisions.



JOHN OLIVER (left), Corporate Product Licensing administrator, and Stan Peterson (right), help Mr. Whitaker with license agreement.

## Whitaker Will Manufacture Product He Originated

A former Nortronics Anaheim man has received a license from Northrop to manufacture a product from an idea he submitted to the company under the Northrop Patent Award Plan six years ago.

He is Noble D. Whitaker, who now heads his own company, Process Engineering Products and Services in Los Alamitos. He has been granted a license by the Corporate Product Licensing Administration to manufacture and market an emulsified solvent used to clean printed circuit boards.

The idea for the solvent was included in a number of ideas Mr. Whitaker submitted to Northrop when he worked at Anaheim in the Process Engineering section.

In addition to taking a license under his own idea, he has obtained licenses to manufacture two other Northrop products. They are the PE-12 adhesive, a two-part glue said to be one of the finest made, and Norcote, a finish coating for printed circuit boards.

Stan Peterson of Northrop Product Licensing, points out that

under the Northrop Patent Award Plan employees who submit patentable and marketable inventions may share in any royalty income received by the company for licenses granted to others under the patents.

"We are interested in all types of ideas," he said. "Every idea and invention disclosure will be carefully evaluated. There is no telling what may or may not be of value. Let us hear from you."

### COONTZ

(Continued from page 1)

significantly to the advancement of this Navy on-line monitoring and fault-finding system. "Northrop Nortronics hereby expresses appreciation to the commanding officer, Commander E. D. Geiger, his officers and men," the citation concluded.

TEAMS was specifically designed to be compatible with existing shipboard radars. "However," Mr. Barry pointed out, "our TEAMS equipment is capable of being utilized aboard many classes of ships as well as with other prime equipment such as sonar, communications, propulsion, and countermeasure systems."

Installation of the TEAMS equipment on the USS Coontz began April 9 with initial turn-on effected on May 6. A majority of the operation evaluation tests were completed on October 28. Additional tests are scheduled on the USS Coontz through January 1969.

## FINAL MEETING SET FOR HAWAIIAN TOUR

Northrop travelers taking part in the annual NRC Hawaiian tour will meet at 8 p.m. Friday at Dandel's Restaurant, 12000 Western Avenue.

Instructions and information pertinent to the trip will be given. Two tours are planned, one departing December 25, the other December 21.



CLOSED CIRCUIT TELEVISION, by means of videotape, is operated at Northrop Ventura by engineer Rodger Sorenson (left), and Tom Smalley, Ventura cinematographer. Dr. Robert Johnson (right), chief of Research at Northrop Ventura, illustrates how a speaker may utilize

the new tool for exchange of technical information. Each system in operation at Northrop consists of the record/playback unit (foreground), miniature TV camera, and a 21-inch monitor. Note Dr. Johnson's image displayed on monitor in background.

## OMEGA—First Transatlantic Crossing a Dual Maiden Voyage

(Continued from page 1)

Captain Fielding added that, as planned, the Omega receiver will undergo further evaluation aboard the Manchester Challenge during the next three months.

Omega is a new worldwide radio navigation system, developed by the U.S. Navy. Northrop produces a shipboard receiver for the Navy and is developing an airborne receiver for the same agency. The company also developed the version used by the Manchester Challenge for use by

commercial ships.

Northrop Nortronics and Marconi International Marine are working together to demonstrate and distribute the low-cost commercial receiver, according to H. W. Turney, Northrop program manager for Omega.

Omega navigation makes it possible for shipowners to realize significant savings in operating costs through reduced time at sea, more accurate course determination, and improved ability to predict arrival times in port.

## DEADLINE SET FOR HOLIDAY KEG EVENT

Deadline for entering Northrop Corporation's 15th annual Christmas bowling tournament is Friday. Entry forms are now available at all Northrop Personnel Activities outlets.

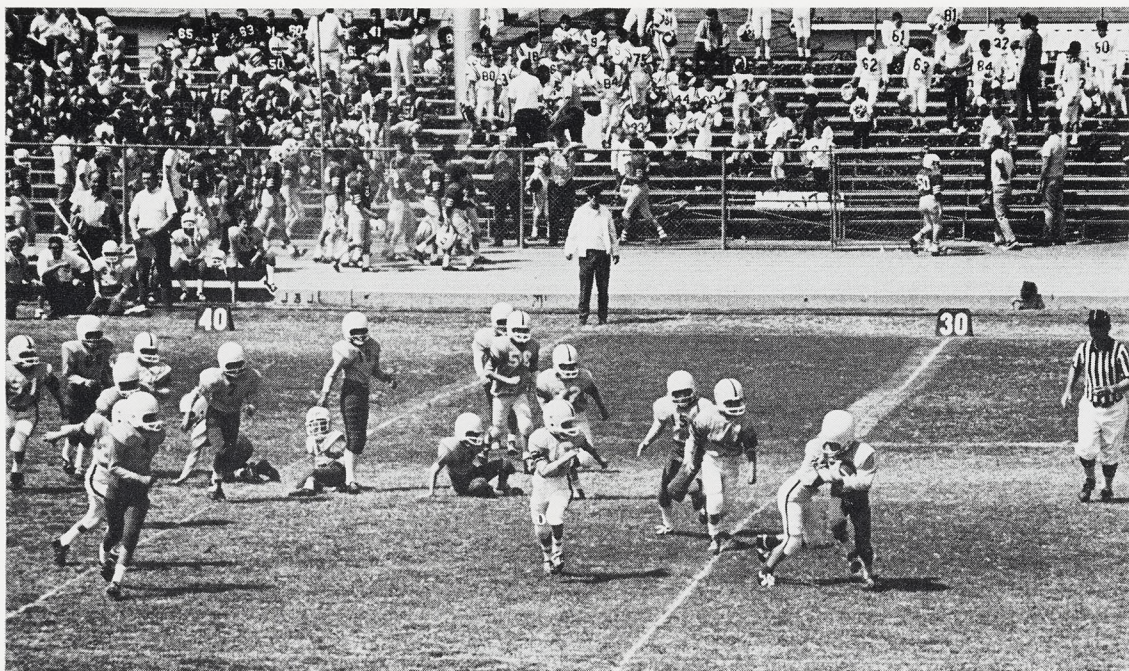
The tournament will be held December 28-29 at Tropicana Lanes, Inglewood. Events include men's and women's singles and doubles and all-events.

Bowling schedules will be available December 18 throughout Northrop facilities.



USS COONTZ skipper, Commander E. D. Geiger, receives plaque from Jim Norman (left) and Tom Barry (right) for outstanding performance of the USS Coontz first shipboard use of TEAMS.





**LIKE THE BIG BOYS**—Another O. J. Simpson or Terry Hanratty may well be in the making among South Bay All American Football Association teams. Northrop families play im-

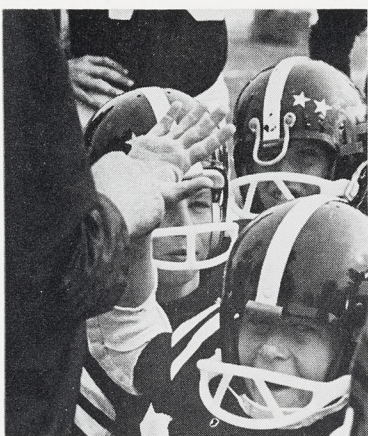
portant parts in these activities as players, pompon girls, officials and backers. Typical action scene above shows youngsters carrying out assignments in a regular game.



**LEADERS**—Nortronics' Don Smith (left) and Norair's Johnny Johnson are typical of Northrop men who lend their time and energy to junior football in the South Bay. Mothers and daughters also fill such jobs as concessioners and pompon girls.

### ACTION GALORE

## Junior Football Is a Family Affair



**STRATEGY**—An adult coach gestures as he gives eager youngsters ready for action their last minute instructions. Boys, ages 8 to 14 years, take part.

Scores of Northrop employees—mostly parents of boys 8 to 14 years of age—are participating in Junior All American Football.

As many as 12 communities within the area surrounding Northrop's Hawthorne facilities are supporting over 2,000 boys on more than 60 teams in the South Bay Conference of the Junior All American Football Federation, Inc.

Northrop families from both Norair and Nortronics are involved in virtually every area of participation including players, coaches, trainers, officials, team fathers and mothers and fund raising auxiliaries. Even younger

and older sisters of the players are pompon girls whose mothers are pompon leaders.

Among those responsible for the continuing success of the program is H. A. "Johnny" Johnson, Norair Configuration Management, who is president-elect of the South Bay Conference, president of the Torrance Association and on the board of directors of the Federation.

"It just isn't something that any one person can take credit for though," says Mr. Johnson. "You have to be out there on Sunday afternoons to see how dedicated all of our people really are."

Teams play at various high

school football fields, often drawing attendance equal to that of a high school game.

Says Steve Kadoich, Norair Off-Site Quality Control inspector and athletic director of the JAAFF in Torrance: "It's a great farm system which starts our eight-year-old boys in the clinics and carries them all the way through the Pee Wee and Midget divisions. By the time they're 14 or 15 we feel they're ready for any junior high or high school team."

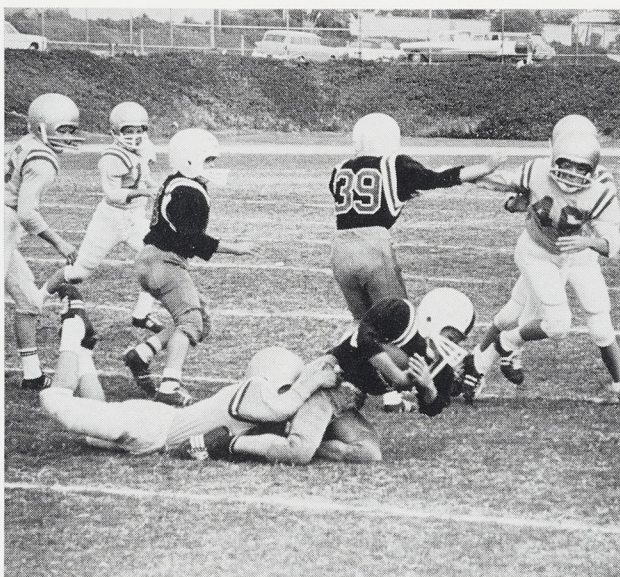
Regular season play among conference teams closed last month. Federation championship playoffs are now in progress.



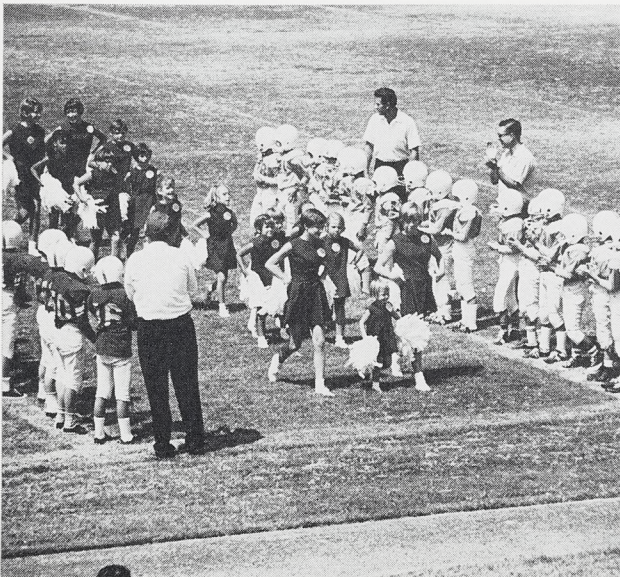
**WEIGH-IN**—Craig Kadoich, son of Northrop's Steve Kadoich, weighs in under watchful eye of Carl Stroud, an official. Boys advance from clinics to league play as they age.



**WHERE THE ACTION IS**—Junior football activities in the South Bay area, as elsewhere in greater Los Angeles, are a family affair. Bob, Helen and Bill Johnson (left above), a Norair family, watch the action even when youngsters are not scheduled to play. Mrs. Ruth Kadoich (left below), a Northrop wife, doubles as concessioner at a league game. Action (center above) is always fast and exciting once the game gets under way. Pre-game activities (center below) find young



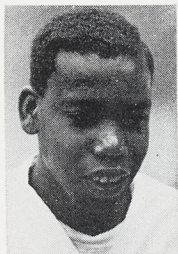
ladies strutting their stuff as pompon girls. Only a devoted family will sit out a game in the rain. Mr. and Mrs. Pat Peterson and son, Matt (right above), a Northrop family, cheer on their favorites. Strategy conference (right below) finds youngsters reviewing their assignments before the big game starts. The sport provides a healthy outlet for all members of a family. **PHOTOS BY RON MCGAFFIN.**





## WHAT DO YOU THINK?

### What Do You Want for Christmas



Mr. Cade

#### Donald Cade, Metal Spray area, Ventura:

Since I just got back from Vietnam, my wife and I are busy getting our home and furniture and we'd like to have that for Christmas. I think our chances are pretty good of having it by then. And then, by next Christmas, we'll be anxious for our first child.

#### Donna Larson, Security office, Norair:

I have an 18-month old daughter who is just learning to talk and since my husband and I are going to visit our parents for Christmas, I'd love for Michelle to be able to say "grandma" and "grandpa." The way she's progressing, we may make it.



Mrs. Larson



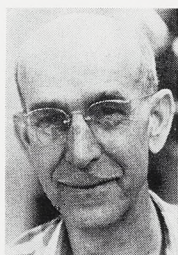
Mrs. Garrett

#### Buelah Garrett, Accounts Receivable, Nortronics Anaheim:

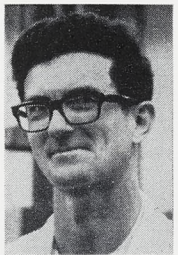
What I'd really like Santa Claus to put in my Christmas stocking is an airline ticket back to my home in Kansas. But since I don't think he can come through with two others for the rest of the family, I'll have to settle for whatever he'll bring.

#### Tony Kleidosty, Sheet Metal, Ventura:

I'd say the thing I want most is to have peace and to have the Vietnam war settled by then. I have some second cousins fighting there and I'd like to see them come home. There just might be a chance. Also, I would wish for continued good health as a present, especially since I'll retire in about a year.



Mr. Kleidosty



Mr. Wissler

#### Leonard Wissler, Model shop, Norair:

What I'd really like to have is some stereo equipment, but my wife wants a dishwasher first. So, maybe if I agree to wash the dinner dishes my chances of getting that stereo would be improved.

#### Michele Monioz, receptionist, Nortronics Palos Verdes:

I wish that Santa would bring happiness and joy to everyone and that all families can be together to enjoy the best holiday season of the year.



Miss Monioz

## Fred Bailey Brings Back New England on Canvas

Fred Bailey liked New England so well on a recent vacation that he brought it back with him in a dozen water color paintings and numerous sketches.

He recently shared his enthusiasm for the picturesque beauty of Cape Ann and Rockport Harbor with his fellow workers at Nortronics Anaheim through a one-man show in the lobby of the administration building.

### TV PREVIEWS

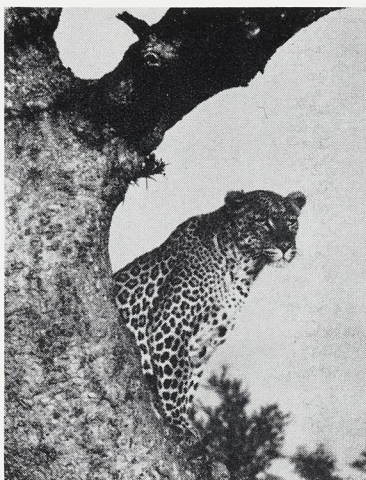
Northrop personnel may obtain free tickets to attend private screenings of new network television shows at the Preview House, Hollywood, through arrangements just completed by NRC.

Contact Personnel Activities outlets for details.

Mr. Bailey was so impressed by his summer visit that he flew back to make additional sketches in the winter. Besides the 12 paintings displayed in the show, he is working on others from color and pencil sketches made during the two trips.

During the show, he found that he is not alone in his admiration of the New England scene. He sold half the displayed paintings.

Mr. Bailey has been in Graphic Arts for 18 years. He came to Northrop in 1952 to help organize the Graphic Arts department at Anaheim. He then joined the Information Systems group to devote himself full time to industrial design, working on advanced design concepts and engineering systems. He has a bachelor's degree in industrial designing from Woodbury College.



**CAMERA ARTISTS**—Lee and Anita Johnson snapped well over 1,000 pictures on their 32-day camera safari that took them to Kenya, Uganda and Tanzania. Among their favorite shots, and

animals, are (from left) a leopard they snapped in sequence as he stalked game, a stately Uganda Kob, and a lazy-looking lion. Minibus made it possible to get within a few feet of animals.

### JOHNSONS DISCOVER

## East Africa Is a Land of Many Faces

"It was like a zoo in reverse—the people enclosed, the animals free . . .

"The land was incredibly beautiful and varied—plains, mountains, forests, rivers and lakes, arid areas. Trees and plants are remarkably colorful, so different. The people add more color, in their dress, habits, temperament. The food is good, very plentiful. Housing was first-class . . .

"The sight of so many species of animals and birds living together staggers the imagination . . .

"We were sad to learn much of what we saw may become extinct, perhaps within our lifetime . . .

Lee and Anita Johnson voiced these comments on returning from a 32-day safari to East Africa.

Mr. Johnson is Norair's chief Safety engineer; Mrs. Johnson a former Nortronics librarian.

They toured Kenya, Uganda, Tanzania in East Africa with a safari staged by the Greater Los Angeles Zoo Association.

All participating were armed with cameras, not guns. Their trophies were photographs, more than 1,000 for the Johnsons alone, of animals in their natural habitat.

Six individuals were assigned to a specially-outfitted minibus capable of traversing various types of terrain. The roof slid back to provide a special camera platform.

"It amazed us to see animals had no fear of the vehicles. We were able to drive into their midst at will," Mr. Johnson said.

The safari route led to all major national parks and game reserves in the nations they visited, plus other key sights and points.

Guiding the Johnsons' segment of the total party was Colonel Mervyn Cowie, author, parliamentarian, lifetime resident of Africa and founder of many national parks and conservation groups. Of special interest was the opportunity to visit native homes and the home of Colonel Cowie and his father before him, a historic landmark.

An overnight stay in the Treetops was a special highlight. It is a hotel built in the tops of trees and accessible only with an armed guide during daylight hours. At night floodlights from the Treetop bring nocturnal ani-

mal life within camera range.

It was Colonel Cowie who informed the Johnsons of the rapidly diminishing animal life, despite game laws and special restrictions on hunting. Poachers, plus expanding farms and populated areas, threaten their very existence, he said.

The Johnsons were so impressed with the conservation need that they became members of the South African Wild Life Society, an organization dedicated to conservation of animals and their natural habitats.

"We will never forget what we saw," Mr. Johnson said. "Our wish now is that much of this will be preserved for the benefit of future generations."



**MIDDLE OF THE WORLD**—Lee and Anita Johnson pose, with some friends, at a point in Kenya marking the exact location of the equator. Their trip, a 32-day camera safari, gave them a rare insight into a beautiful and rapidly growing area.



FRED BAILEY AND HIS ART

## Football Causes 'Feud' Between Anaheim Friends

In the Nortronics Anaheim Security office Buck Pennington and Jerry Sizelove get along great—until football is mentioned. Then friendship loses out to fatherhood.

Sons of both men are gridiron rivals, playing on opposing teams in the California Interscholastic Federation (CIF) playoffs. Steve Pennington, 16-year-old junior and class president, plays half-back for La Quinta. Mark Sizelove, also 16, is a junior at Laguna High.

Both teams were champions in their leagues and met for championship playoffs.

At the game Laguna won with a score of 14 to 13.



# Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

## Automobiles For Sale

**Comet**, 1961, auto. trans., r/h, \$400. 213-370-7092. A

**Corvette**, 1962, 4-spd., 327, 2 4-bbls., \$1,400. 213-323-7507. A

**Chevrolet**, 1965 S.S. Impala, 2-dr. h/top, p/b, p/s, auto. trans., a/c, \$1,695. 213-326-1856. A

**Station Wagon**, 1962 Chev. II Nova, 6-cyl. auto., r/h, \$650. 213-375-8536. A

**Chevrolet**, 1963 Nova, 2-dr. h/top, auto., \$695. 213-862-3027. A

**Chevrolet**, 1967 Camaro, fact. air, auto., r/h, \$2,395. 213-374-6841. A

**Ford**, 1961 Starliner, 352 V-8, auto., \$280. 213-644-6733. A

**T-Bird**, 1965, fact. air & full power, \$2,300. 213-679-0848. A

**Volvo**, 1961 122S, 4-dr., 4-spd. stick, \$495. 213-670-4525, 213-375-8643. A

**Ford**, 1960 Fairlane, 2-dr., V-8, auto. trans., r/h, p/s, \$250. 213-564-0584. A

**Mustang**, 1965, 289 V-8, 2-dr. h/top, a/c, full power, r/h, auto. trans., \$1,395. 213-374-7546. A

**Mustang**, 1967 GT, 390 cu. in., 4-spd., full power, a/c, disc brakes, fastback, \$2,450. 213-323-4257. A

**Ranch Wagon**, 1966 Ford, stick shift, r/h, p/s, \$1,200. 213-375-5856. A

**Mustang**, 1965 2+2, V-8, fact. air, p/s, 4-spd., radio, \$1,475. 213-541-2136. A

**Buick**, 1966 special, convt., V-8, auto. trans., r/h, \$1,350. 213-675-0777. A

**Thunderbird**, 1957, h/top, portholes, all power, r/h, \$1,500. 213-679-7840. A

**Mustang**, 1965, convt., auto., V-8 289, \$1,495. 213-378-8136. A

**Mustang**, 1965 V-8, 289, 4-spd., r/h, \$1,395. 213-428-6075. A

**Austin Healey**, 1960 3000, new paint & eng., custom h/top, \$1,025. 213-674-1891. A

**Chevrolet**, 1965 Impala, 4-dr. h/top, p/s, p/b, r/h, \$1,350. 213-324-5996. A

**Dune Buggy**, 1958 Volkswagen, w/'62 eng., \$500. 213-375-4558. A

**Cadillac**, 1962 convt., r/h, fact. air, \$1,200. 213-663-3622. A

**Volkswagen**, 1959, \$200. 213-644-3272. A

**Shelby**, 1967 GT500, 428, auto., air, stereo, extras, \$3,795. 213-374-5935. A

**Chevelle**, 1965 Malibu 2-dr. h/top, r/h, p/s, \$1,700. 213-371-0323. A

**Jeep**, 1964 Wagoneer, 6-cyl. O.H.C., 4-whl. drive, r/h, \$1,395. 714-521-0073. A

**Mustang**, 1965 Fastback GT, 225 h.p., 4-spd., disc brakes, \$1,650. 213-641-1005. A

**Dune Buggy**, 1962 VW running gear, roll bar, tow bar, \$900. 213-676-6893. A

**Volkswagen**, 1967 Suntop, AM/FM/SW radio, \$1,600. 213-375-3813. A

**Thunderbird**, 1960, \$675. 213-679-3958. A

**Station Wagon**, 1964 Impala, r/h, p/b, p/s, auto. trans., \$1,200. 714-524-1728. A

**Mustang**, 1965, 289 cu. in. V-8, 4-spd. trans., extras, \$1,600. 213-677-0937. A

**Comet**, 1965 Cyclone, V-8, 4-spd., S/W gages, \$1,500. 714-529-6762. A

**Model T**, 1927 4-dr. sedan, needs general rehabilitation, \$800. 714-526-6759. A

**Ford**, 1963 Galaxie, V-8, auto., 2-dr. h/top, p/s, p/b, r/h, \$675. 714-633-6344. A

**Ford**, 1940 sedan, Deluxe, new eng., rebilt. trans., \$300. 213-861-8877. A

**Porsche**, 1967 912, 4-spd., AM/FM/SW radio, \$4,500. 213-439-4600. A

**Pickup**, 1946 Chevrolet, 1956 eng., r/h, \$300. 213-545-1676. A

**Oldsmobile**, 1960 98, 4-dr., r/h, fact. air, full power, \$350. 213-678-2731. A

**Chevrolet**, 1962 Impala, 4-dr. h/top, rebilt. 327 V-8, fact. air, \$650. 213-791-3753. A

**Pontiac**, 1965 GT0, 2-dr., auto. trans., p/s, p/b, fact. air, \$1,500. 213-644-7508. A

**Morgan**, 1957 + 4 roadster, \$950. 213-325-0487. A

**Volvo**, 1960 P544, new paint, many extras, \$595. 213-329-1705. A

**Station Wagon**, Ford 1958, needs eng. work, \$100. 213-532-8294. A

**Volkswagen**, 1968, 4,000 miles, \$1,650. 213-295-2400. A

**Buick**, 1962 Special, auto., \$325. 213-839-9066. A

**TR-3**, 1959, new tires, clutch & brakes, \$550. 213-377-2282. A

**Chevrolet**, 1966 Nova, 2-dr., Turbo-Hydromatic, r/h, \$1,400. 213-632-1666. A

**Oldsmobile**, 1966 Cutlass, 2-dr. Holiday cpe., r/h, auto. trans., p/b, p/s, \$1,895. 213-372-0961. A

**Morgan**, 1965 + 4 rdstr., 6,000 mi., AM-FM radio, htr., many extras, \$3,000. 213-396-3594. A

## Automobiles For Sale

**Mustang**, 1966, radio, p/s, auto. trans., \$1,650. 213-329-9464. A

**Travelall**, 1966 International, V-8, auto. trans., p/b, p/s, a/c, r/h, \$2,475. 213-927-0282. A

## Household Items For Sale

**Bar Stools**, 2, \$18. 213-327-5376. B

**China**, Rosenthal, service for 12, cream white w/beige rose, \$150. 213-379-6379. B

**Love Seat**, quilted, off-white & light green, T-cushions, \$60. 213-672-4447. B

**Rocker**, recliner, few mos. old, \$90. 213-674-8361, 213-645-8067. B

**Chest-of-Drawers**, antique white, \$15. 213-823-1910. B

**Dinette Set**, 4 captain's chairs & 42" round ext. table, \$50. 213-327-3795. B

**Refrigerator**, \$50. 213-320-3844. B

**Range**, Kenmore, gas, 40", 4-burner & gridle, \$35. 213-756-3669. B

**Mirror**, plate glass, 24" round, \$3. 213-675-6020. B

**Dining Room Set**, blond, ext. table, 4 uphol. chairs, glass door china closet, \$150. 213-375-1395. B

**Mirror**, bltin medicine chest-type w/2 side mirrors, \$9. 213-327-4585. B

**Dishwasher**, \$20. 213-671-1432. B

**Sewing Machine**, Pfaff Super Deluxe zigzag, mod. 188, \$175. 213-378-4676. B

**Couch**, Early American, 8', \$50. 213-421-9986. B

**Youth Bed**, waxed birch finish, removable side rails, incl. mattress & some bedding, \$29. 213-323-8089. B

**Stove**, gas, Wedgewood, coppertone, 2 yrs. old, \$75. 213-343-3579. B

**Dryer**, Sears, elec., mod. 500, 220 or 110 volt, 6 mos. old, \$100. 213-834-5441. B

**Stove**, gas, \$25. 213-644-1720. B

**Range**, white Gaffers & Sattler, 5 1/2 yrs. old, full size oven, \$75. 213-324-9193. B

**Sideboard**, antique, antique white, \$40. 213-534-1399. B

**Love Seat**, \$20. 213-676-9858. B

**Stove**, apt. size, \$25. 213-270-1003. B

**Dryer**, RCA Whirlpool, \$25. 213-328-1520. B

**Crib**, lge. size, natural wood, w/mattress, \$25. 714-525-4953. B

**Dryer**, Speed Queen, gas, \$45. 213-374-4944. B

**Freezer**, Pemcrest, magnetic touch, upright, 250 lbs. cap., 2 yrs. old, \$100. 213-328-7989. B

**Refrigerator**, 14 cu. ft. Norge, 5 yrs. old, \$30. 213-645-6506. B

**Studio Couch**, Scotchguard fabric, sleeps 2, \$50. 213-679-6982. B

**Freezer**, upright Duracrest, 350 lbs. cap., \$85. 213-679-5704. B

**Bed**, folding-type, dble., mattress, metal frame, \$35. 213-676-5929. B

**Stove**, apt. size, gas, \$20. 213-329-5626. B

**Refrigerator**, Gibson, dble. dr., freezer on bottom, 1 yr. old, white, \$195. 213-329-0504. B

**Freezer**, lge. chest type, \$50. 714-523-2495. B

**Washer**, Maytag, \$30. 213-294-7373. B

**Sofa**, off-white, 8' long, zippered cushions, \$75. 213-671-5722. B

**Serving Cart**, wicker, \$8. 213-376-8250. B

**Desk**, walnut, full size, \$25. 213-835-5052. B

## Miscellaneous For Sale

**Heater**, 1-rm., gas, vented, \$10. 213-675-7403. C

**TV Antenna**, gold anodized w/10' mast, \$20. 805-497-3101. C

**Lawnmower**, reel type, \$5. 213-754-8092. C

**Shoe Skates**, ladies', size 8, \$10. 213-370-3132. C

**Honda**, 1967, 160 Scrambler, elec. starter, \$400. 213-672-0426. C

**Aquarium**, 20-gal., w/access. & stand, \$40. 714-528-2382. C

**Motorcycle**, 1968 BSA, Starfire, 250 cc, take over \$42 mo. pymts. or \$600. 213-679-2963. C

**Bicycle**, girl's 20", \$15. 213-833-7819. C

**Rifle**, 22 automatic, \$25. 213-372-2313. C

**Pup**, poodle, silver min., AKC papers, \$50 ea. 213-944-4351. C

**Wheels**, 5 for VW bus, w/tires & hubcaps, \$50. 213-396-6739. C

**Interest**, 1/4, in Aeronca L-3, 190 S.M.O.H., ceconite, radio & omni, \$490. 213-323-9768. C

**Pups**, German shepherd, Rin Tin Tin color, \$25-\$30. 213-675-3725. C

**Air Conditioner**, General Electric Thin Line compressor-type, 7500 b.t.u. cap., w/steel porta-cart stand, \$85. 714-528-7636. C

**House**, 5-rm., heated 15x35' pool, 45x150' lot, cement b/wall, cpts., dps., near Northrop, \$26,500. 213-679-4778. C

**Fall**, light blond, 16", \$45. 213-375-8722. C

**Motorcycle**, 1965 Honda S-90, rebilt. eng., \$200. 213-670-6017. C

**Sailboat**, 9 1/2' Teacup, dacron sail, sand dolly, \$150. 213-321-1655. C

**Home**, 5-bdrm., 3-car gar., central a/c, undg. util., 600 sq. ft. brick & redwd. patio, landscaped, sprinklers, fences, near Northrop Ventura, \$38,500. 213-889-8075. C

**Doors** for VW, \$5 ea. 213-370-2876. C

**Pups**, golden retriever, AKC reg., all shots, females, \$125; males, \$150. 213-377-4018. C

**Stereo Console**, German-made Lowe-Opta, 6 Grundig spkrs., encased in walnut cabinet, \$200. 714-639-2509. C

## Miscellaneous For Sale

**Train Layout**, H.O., 4'x8', 3 engs., 24 cars, 3 pwr. packs, \$40. 213-633-6106. C

**Drafting Board**, w/adjust. stand, 31"x42", & full size T square, \$23. 714-774-4853. C

**Table**, child's, folding, metal, 4 chairs, \$4. 213-379-5690. C

**Tape Recorder**, stereo, 4-track, ext. jacks, 2 mikes w/2 tapes, \$50. 213-676-4536. C

**Verifax Copier**, Kodak, \$50. 213-377-3532. C

**Guitar**, Martin tenor, \$125. 213-830-5926. C

**Radio Transmitter**, amateur-type, Heath DX 100, \$60. 213-676-6949. C

**Handgun**, .38 Special, single action, stag grips, 7 1/2" bbl., \$50. 213-283-1828. C

**Wedding Dress**, satin & lace, long sleeves, 9' train, size 9-10, \$45. 213-676-8833. C

**Band Saw**, Craftsman 12" w/stand, 1/2 h.p. motor, access., \$75. 213-670-2564. C

**Camper**, for 1957-'58 Ford Ranchero, w/sun tarp, wood int., \$125. 213-327-8766. C

**Airplane**, 1960 Cessna 172, full panel, MK 12-VHT 3 radio, TTAE 2,300 hrs., s.m.o.h. 550 hrs., \$5,400. 213-670-0713. C

**Piano**, Wuriltzer spinet, \$290. 213-676-5101. C

**Boat**, 16', fiberglass, Mark 78 motor & trailer, bait tank, \$1,000. 213-645-3613. C

**Bowling Ball**, 13-lb., & bag, \$15. 805-495-8515. C

**Motorcycle**, 1966 Bonneville Triumph, \$900. 213-675-9673. C

**Motorcycle**, 1968 Yamaha, 350 cc, \$650. 213-534-3100. C

**Lot**, 2 1/2 acres, Iron Gate Lake, Calif., take over \$45 mo. pymts., \$4,995. 213-377-2064. C

**Radio**, ship-to-shore, \$15. 213-324-4817. C

**Apt**, Anaheim, 6 units, 4 2-bdrm., 2 1-bdrm., terms, \$57,000. 213-861-1529. C

**Camper**, full cabover, 8' bed, w/boot, \$425. 213-830-4265. C

**Exhaust System**, Porsche, for VW 1500, w/chrome tip, complete, \$30. 213-674-8997. C

**Motorcycle**, 1968 Honda, 125 cc, \$340. 213-756-4424. C

**Motorcycle**, 1959 BMW 600, eng. rebored, incl. parts & repair manual, \$50. 213-833-4933. C

**Wiglet**, 100% human hair, ash blond, never worn, \$15. 213-679-9621. C

**Radio**, Motorola transistor, \$12.50. 213-676-6423. C

**Stereo**, Magnavox, Danish walnut cabinet, record player w/2 15" Woofers, & 2 1.000 cycle horns, 2 yrs. old, \$300. 213-835-8950. C

**Pups**, scotty, 10 wks. old, male, AKC reg., \$75. 213-671-1660. C

**Calculator**, Victor automatic, \$375. 213-677-4215. C

**Motorcycle**, 1967 Honda 305 Scrambler, 1,750 miles, \$550. 714-521-8309. C

**Engine**, 1964 Ford V-8, 352 h.p., 4 Venturi bbls., & auto. trans., \$475. 213-222-1154. C

**Home**, Rolling Hills Ests., corner lot, 4-bdrm., 2 baths, 20 x 40 heated pool, bltins, recently painted, cpts., dps., \$45,500. 213-832-4472. C

**Train**, elec. Lionel & American Flyer, \$20. 213-430-2619. C

**Lot**, 1/2 acre, P.V. Pen., 5 min. to Nortronics, \$25,000. 213-377-8195. C

**Camper**, 8 1/2' Romer, full cabover, sleeps 4, \$700. 213-675-2329. C

**Piano**, Pacard upright, restyled, \$195. 213-320-2639. C

**Encyclopedia**, Americana, never used, 30-vol. set, walnut bookcase, & annual yearbook, \$250. 213-323-1192. C

**Boat**, 20' Thompson Lapstreak runabout, 160 h.p. inbd.-out drive, \$3,750. 213-377-4146. C

**Cabinet**, hi fi, 34" high, 17" dp. & 33" wide, separate spkr. encls., \$50. 213-377-5003. C

**Bicycle**, girl's 24", \$15. 213-325-4737. C

**Clock Radio**, Westinghouse, never used, \$22.50. 714-828-1434. C

**Surfboard**, 9'6", by Surfside, \$68. 213-596-7600. C

**Mini Bike**, Bonanza, 4 h.p. Tecumseh motor, trail gear, \$125. Box 2401. C

**Acreage**, 1/2 acre, 100 yds. no. of Lake Los Angeles, Antelope Valley, paved rds., water, zoned R-3, \$16,000. Box 2402. C

**TV**, 23" b&w Packard Bell, maple console, \$35. 213-645-5516. C

**Motorcycle**, Sparta SB50, 50 cc, auto., made in Holland, \$125. 213-454-7338. C

**Wedding** & engagement rings, \$100. 213-379-4957. C

**Apt**, deluxe 4-unit, 1 block from Norair, 4 yrs. old, \$64,900. 213-675-5181. C

**Piano**, spinet, walnut, \$450. 213-378-1876. C

**Motorcycle**, Yamaha, 1966, twin 100 cc, \$225. 714-582-6984. C

**Snowmobile**, 1967 Polaris Colt 140, 15 h.p. 300 cc Hirth eng., trailer, \$750. 714-838-7161. C

**Paddle Board**, 12', \$15. 213-677-7421. C

**Seats**, for Dune Buggy, \$30. 213-371-3065. C

**Wig**, medium brown, never worn, \$75. 714-893-8990. C

**Acreage**, 2 1/2 acres, Antelope Valley, \$42 dn., \$42 mo., no int., \$4,200. 213-378-1026. C

**Reloading Tool**, Lee, for a 30/06, \$5. 213-860-2305. C

**Mini Bike**, 8 h.p. West Bend, \$135. 213-393-5649. C

**Camera**, 35 mm Exakta VX-11A, f 2.0 Biotar w/split image penta prism, \$90. Box 2403. C

**Motorcycle**, 1965 Royal Enfield, Interceptor, 750 cc, \$750. 213-370-5316. C

## Miscellaneous For Sale

**Motorcycle**, 1964 Yamaha, 250 cc, XDS-4, \$275. 213-644-2618. C

**Auto Radio**, Bowman, AM 5 pushbutton, 1968, \$30. 213-327-9338. C

## Wanted to Buy

**Gun**, 357 Ruger or Colt & 9 mm Luger, pistol, reasonable. 213-677-5816. D

**Motor Manual**, for 1963 VW 1200 Series. 213-861-6404. D

**Tools**, air-operated, impact wrench, high-speed hand grinder. 714-693-4117. D

**Ford**, 1932 coupe or parts of same. 714-892-4829. D

**Hide-A-Bed** or Riviera sofa. 213-534-5498. D

**Books**, Childcraft, complete set & encyclopedia, World Book. 213-325-8175. D

**Barbells**, child's set. 213-320-6685. D

**Station Wagon**, 1965-'68, low mileage, compact or interm., auto. trans. & p/s. Box 2404. D

**Power Tools**, table saw, grinder, woodworking tools. 714-637-7667. D

## For Trade

**Beds**, 2 single w/matching headboards trade for bunk beds, contemporary walnut. 213-783-8822. E

**Dryer**, Speed Queen, 220 V. elec., trade for comparable gas dryer. 213-674-3265. E

## Rentals Offered

**House**, 2-bdrm., gar., adults, no pets, \$150 mo. 213-676-1013. G

**Cabin**, Lake Arrowhead Woods Est., sleeps 8, \$25 day or \$150 wk. 213-323-5164. G

**House**, 3-bdrm., 1 1/4 baths, 18' x 22' family, living & dining area, bltins, cpts., dps., \$225 mo. 213-324-0709. G

**Apt**, 2-bdrm., unfurn., h/wood floors, f/place, adults only, close to Northrop, \$100 mo. 213-675-1471. G

**Cabin**, Green Valley, \$25 w/end; \$45 wk. 213-324-0649. G

**House**, 2-bdrm., lge. fenced yard, 1 mile from Norair, \$160 mo. 213-671-9216. G

**House**, 1-bdrm., unfurn., adults only, \$70 mo. redecorated or \$55 mo. 213-534-5780. G

**Cabins**, Lake Gregory & Crestline, sleep 6, \$25 w/ends; \$60 wk. 213-391-2040. G

**Cabin**, Big Bear Lake, sleeps 9, \$25 w/end. 213-867-0662. G

## Personals

**My** deepest & sincere thanks for your thoughtfulness & kindness at the recent loss of my father & serious injury to my mother. OZELL DETZ. L

**I** wish to express my sincere thanks to all our friends at Northrop & the Northrop Recreation Club for all the gifts, flowers, cards & acts of kindness during the loss of my husband, Robert Martin. JADDIS J. MARTIN. L

**My** heartfelt thanks to my fellow workers & heart donors for the sympathy & kindness extended to me during the illness & passing of my wife. OLLIE L. DIRRIG. L

**Our** most grateful thanks for all the many tokens of sympathy, esteem & affection extended to us at the recent illness & death of my beloved husband, Harold M. Sivula. IRENE L. SIVULA & FAMILY. L

**My** sincere thanks to the Northrop Recreation Club & friends at Nortronics for the cards, flowers & expressions of sympathy in the recent loss of my father. BERNIE DAVIS. L

**Anyone** from Morningside High School class of 1959, call 213-379-8617 regarding 10-yr. class reunion. L

## Rides and Riders

### Rides Wanted

6 a.m. — 3:42 p.m.

Century Blvd., San Pedro or Main, Los Angeles. Hercules L. Jackson, Norair ext. 1591, 213-754-4448.

8 a.m. — 4:45 p.m.

Imperial Hwy. & Old River School Rd., Downey. Robert Kirkpatrick, Nortronics Haw. exts. 825, 275, 213-923-0140.

### Rides Offered

8 a.m. — 4:45 p.m.

Imperial Hwy. & Old River School Rd., Downey. Robert Kirkpatrick, Nortronics Haw. exts. 825, 275, 213-923-0140.

### Personals

**I** would like to thank all my wonderful friends in Dept. 5911 for the going away party & gifts. MELODY MILLER. L

### For Sale or Trade

**Ford**, 1955, 2-dr. h/top, V-8, auto. trans., \$225 or trade for pickup, 1/2-ton, of equal value. 213-370-2100. M

## Junior Achievers Receive Charter After Plant Tour

Keiko, the Junior Achievement Company counseled by Nortronics Anaheim, received its charter during a recent visit of its members to the Anaheim department.

The Junior Achievement Program teaches free enterprise by counseling young people in setting up and operating a corporate-type business during the school year.

The Junior Achievers were welcomed by their company advisors, Bob Varner, management; Don Myers, operations; Tom Sneed, marketing; Bob Barry, financial; Jim Tway, sales; and Tom Maxwell, production.

After touring the electronics, manufacturing and 747 stringer areas, the 16 visiting Junior Achievers were presented their company charter by Don McInnis, director of Ordnance Manufacturing, Page Court. Tom Manogian, Keiko president, received the charter.

Nortronics has participated in the Junior Achievement program for nine years. Nortronics Hawthorne also counsels a company, Handitac, which will be presented its charter in the near future.

Handitac is concentrating on production and expects to have its product available this week. Replicas of the Ranger spacecraft and the biosatellite will be included in the designs planned.



DAVID A. MILLAR, (center), is a Wise Owl now. Lyle Batchman, (left), and Peter Falk, superintendent, Production area, (right), make it official by presenting his membership certificate in the Wise Owl Club of America. The award is presented by the National Society for Prevention of Blindness after an awardee's eyesight has been saved by wearing safety glasses. Mr. Millar, who works on the second shift, Production area, Anaheim, had his glasses shattered but his eyes saved when a chip broke from a piece of metal during a milling operation.



## AT CHRISTMAS

## Helping the Needy a Northrop Tradition

A tradition as old as Northrop Corporation is being perpetuated once again with the approach of the annual yearend holiday season.

This is the practice of sharing with the less fortunate at Christmas.

The practice is novel in many

ways. Above all, it is voluntary. Only those who desire take part. It is carried out by employees entirely.

The tradition began with an idea, now traced to a group of early Northrop employees. They suggested money normally spent on exchange gifts or greeting

cards could be pooled and used to a far better advantage—helping the less fortunate.

Thus began the concept of "adopting" families and supplying them all the requirements for a Merry Christmas. At the beginning, as now, the less advantaged people come first.

The generosity of those supporting the program has always far exceeded internal demands for help. Currently, many charitable agencies help supply additional names of families in need in the communities in which Northrop people work. They are cared for in the same way as employees.

In addition, many other agencies and groups are helped each year. They range from individual hospital wards to entire hospitals, homes for the aged, special groups such as Indian Reservations, and many groups where help is urgently needed, not only at Christmas but throughout the year.

The methods of raising funds are almost as varied as the groups they assist. Offices, shops, departments and functions carry them out, usually under the guidance of a committee comprised of employees.

Regardless of the method, the feeling behind the entire program—the desire to help others less fortunate—is the cornerstone of a practice, a tradition that has grown with Northrop Corporation and its people.

## Candy Sales at Ventura Will Aid Needy Families

The annual Christmas candy sale at Northrop Ventura is in progress this week, according to Dorothy Prychoda, Northrop Ventura Recreation Club president-elect.

By special arrangement with See's Candy Shops, Inc., in Los Angeles, the NVRC will provide boxes of See's candy to Northrop employees at the lower-than-retail price of \$1.50 per pound including tax.

Ticket sales will continue through this week with NVRC candy representatives available in the cafeteria and on the mall during lunch hour. Distribution of the candy will begin December 17 in the cafeteria.



URBAN LEAGUE leaders from Los Angeles area visited Norair recently for plant tour and talks. Norair's Bob Jones (right) and Harold Washington (pointing) talk with (from left) Dallas Martin, Dr. Frank Stanley, Urban League executive director, Dr. Neil Dorian and Mrs. Essie Robertson.

## Christmas Parties Set for Youngsters at Three Sites

Christmas is a special time for the young and Northrop Recreation Clubs have this foremost in mind as they plan a series of parties for the sons and daughters of Northrop employees.

Because Northrop families reside at such widely-scattered points in the Southland, parties are being planned for three locations, each for a special group.

December 8 will find the youngsters of Corporate, Norair and Nortronics Hawthorne and Palos Verdes personnel gathering at the Shrine Auditorium, Los Angeles. Northrop Ventura youth will gather at the Ventura plant site December 14 for their big party. And on December 15, Nortronics Anaheim youngsters will be feted at the NRC Clubhouse, Fullerton.

## Shrine Auditorium

The expected turnout for this event, the 28th Annual Northrop Christmas Party, requires identical parties to be held at 10 a.m., 1:30 and 4:30 p.m.

Features will include film cartoons, the acrobatic Hardy Family, the Wheelers Marimba Trio and other surprises. Santa Claus will be on hand to greet youngsters and to discuss their Christmas wishes.

Tickets for these events, each specifying a particular show, have been mailed to all who requested them.

## Ventura

The beautiful Ventura Division grounds are being specially prepared for the expected visit of

Ventura youngsters between 10 a.m. and noon.

Festivities will include special entertainment, free surprises for all and a visit from Santa Claus and his helpers.

## Anaheim

NRC's Clubhouse at Fullerton is also receiving special decorations for a show slated between noon and 4 p.m.

There will be special rides and entertainment, plus surprises for all youngsters attending. And Santa Claus will make his traditional appearance. Reservations for this event were due last week.

## New ASTM Chapter Now In Operation

With the organization of a newly-formed American Society of Tool and Manufacturing Engineers Ventura/Santa Barbara chapter, all three West Coast divisions of Northrop now have employees affiliated with local ASTM societies.

Before the Ventura/Santa Barbara chapter originated two months ago, Northrop Ventura members had to participate in Los Angeles County chapters, often commuting 100 miles or more to attend regular society meetings and functions.

Already the new affiliated chapter has enrolled more than 75 members since the organizational meeting in October when 46 became charter members. By the December meeting more than 100 are expected to be enrolled and prospects are for a total membership of 150 members by the middle of next year.

Twenty-four from Northrop Ventura are now participating and another dozen are expected to affiliate by next summer.

Information about qualifications for membership is available from Bill Craig (Ventura ext. 1129) chairman of the membership committee.

Three others from Northrop Ventura hold special committee appointments. They are Bill Kearney, program committee; Ralph Basco, bylaws committee; and Al Robinson, chairman of the educational committee.



MR. RUDLUFF, LEE

## CASI Told How Computer Control Aids Maintenance

Trends in aerospace technology toward computers in maintenance control was discussed by William Q. Nicholson, chief, Automation Systems R&D, Nortronics Anaheim, at the Canadian Aeronautics and Space Institute, Montreal, Canada, on November 27.

Mr. Nicholson discussed examples of automatic test and check-out systems, including the Nortronics-built TEAMS used by the U.S. Navy, automatic test systems for Polaris and Poseidon, and the Northrop 1060A computer used in the MADAR.

"Examples of maintenance functions that lend themselves to computer automation include failure prediction, fault detection, fault location and isolation, maintenance advice, performance assessment, maintenance record keeping, and integrated logistics support," Mr. Nicholson told the group.

The computer in maintenance control promises not only better maintenance at lower cost, but a better match between acquisition and life cycle cost, he added.

"Northrop friends urged me to get a guide dog," Mr. Rudluff said. "I thought about it for some time before I finally decided I needed the mobility and independence a guide dog could provide."

Margie Rudluff, a 12-year Northrop veteran, now works in Norair's Supersonic Transport organization.

"Ozzie had to make the decision, but having Lee about has made a great difference in our lives," Mrs. Rudluff said. "He tolerates me, but is extremely devoted to Ozzie. I've become accustomed to having him beside the bed, at the door of the bathroom, beneath the dining table, anywhere Ozzie is he is there."

Since losing his sight Mr. Rudluff has taken a keen interest in sight conservation. He heads the sight committee of the Downey Lions Club with the responsibility of providing necessary treatment for school children with sight problems. He also is on the district committee and is chairman of the annual White Cane Drive, and serves as third vice president of the Lions Club. A special telephone-connected recording unit tapes the information needed for his work in sight conservation.

Mr. Rudluff receives instructions for Braille, typing and abacus once a week from a teacher provided by the State Rehabilitation Center. Talking records are provided for his pleasure and relaxation by the Library of Congress.

## NRC GEM CLUB SETS ILLUSTRATED TALK

An unusual program has been scheduled by the NRC Gem and Mineral Club at the NRC Clubhouse in Fullerton on January 6, according to Gaylord Miller, club commissioner.

Dave Johnson, former Nortronics employee, will deliver an illustrated lecture on rock hunting and photography in the Northwest Territory of Canada.

"The nature of Mr. Johnson's presentation makes it appealing to a wider group than just our rock hounds," Mr. Miller said. "Photographers, nature lovers, and travel fans will all find it fascinating. Everyone is cordially invited."

Additional information may be obtained from Mr. Miller at ext. 587, Anaheim. The meeting will start at 7:30 p.m. and is free.

## A FUNNY GUY

Jean Louvier of Northrop Toastmasters Club has won first place in the District 50 Humorous Speech Contest held in Santa Monica.

Finalists represented 36 clubs with a combined membership of some 1,000. Mr. Louvier won club, then area honors to earn a place in the district finals.



ACE HIGH in the recent Nortronics Anaheim noontime duplicate bridge tournament was the team of Jim Doyce (left) and Bill Powell who took first place in competition against eight other teams. The noontimers play each day during their lunch hour.



# NORTHROP NEWS

*Holiday  
Greetings*

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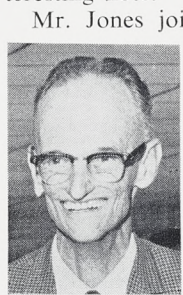




# NORTRONICS DIVIDED INTO TWO NEW DIVISIONS

## NORTHROP NEWSMAKERS

Northrop Corporation's first technical writer, **E. W. "Pop" Jones**, formerly of Norair, has entered retirement on a rather interesting note.



Mr. Jones

Mr. Jones joined Northrop in June 1940 and his first assignment involved writing technical material on the NP3 destined for use by the Royal Norwegian Air Force. His final assignment prior to retirement was updating and maintenance of manuals for Norway's F-5A and F-5B. Between the two was a timespan of 28 years.

**B. R. Swift**, Ventura, will teach a University of California Extension course on grievance and ar-

bitration techniques to be taught during the winter semester.

**W. A. Boyes, sr.**, Norair, has been installed as national treasurer of the American Power Boat Association.

Mr. Boyes moved into his new post after having served for two years as chairman of Southwestern United States for the association.

**Rocklin Farquhar**, 15, son of **George Farquhar**, Norair, will appear on the Torrance float in the annual Rose Parade this year.

The float, titled "Sunday in the Park," will feature Miss California of 1968 and Miss Torrance, plus a 10-piece band playing melodies of the gay 90's. Young Mr. Farquhar, who plays first trumpet for the Torrance Area Youth Band, will be a key member of this brass section.

## Guidance Test Symposium Shown C-5 IDNE Systems

Northrop Nortronics' Navigation department has displayed the C-5 Inertial Doppler Navigation System both in static displays and installed in an Air Force Lockheed C-130 at the Fourth Biennial Guidance Test Symposium at Holloman AFB, New Mexico.

The system is being developed by Northrop for the world's largest aircraft—the USAF C-5A being built by Lockheed-Georgia Company.

Keynote speaker for the symposium was General James Ferguson, commander, Air Force Systems Command. General Ferguson told his audience of over 400 guidance experts that the United States leads the world in guidance system development.

"I have heard a lot of talk that because we moved so rapidly in

this field and are so far ahead, we can afford to turn on the autopilot and relax a bit," the general said. "This is a dangerous state of complacency. We cannot maintain the status quo, and I include slight advances as status quo."

The Systems Command commander added that it would be unwise to let another country take the lead in technology through our own lack of decisive effort.

"We must, at all times, maintain a technical momentum in order for our nation to maintain adequate strength across the entire spectrum of deterrence," he said.

## SYMPHONAIRES IN MUSIC FESTIVAL

The Northrop Symphonaires will appear in a Christmas Music and Art Festival sponsored by the Fine Arts Association of Centinela Valley, December 21 at 8 p.m. in the Hawthorne Memorial Center.

An art show by the Hawthorne Art League will be presented during intermission.

## FINAL EDITION

Northrop News staff members will join fellow Northrop employees in enjoying the long yearend holiday period just ahead, so this is the final edition planned for 1968.

The first edition of Northrop News to be published in 1969 will be distributed January 15. Deadline for news copy and classified ads will be January 8.

## Apollo 8 Lunar Mission Countdown in Progress

With a 101-hour prelaunch countdown in progress since Monday, all systems are "go" as the NASA Apollo 8 lunar orbital Christmas mission approaches its scheduled launch less than 72 hours from now.

The Northrop Ventura-built Earth Landing System will again be riding atop the Apollo command service module, awaiting its task in the closing minutes of the mission. The landing system, similar to the one which safely returned the Apollo 7 astronauts, will remain virtually unchanged for its role in the Apollo 8 flight.

If all goes well between now and Saturday morning at 6:45 a.m. (PST), Apollo 8 Astronauts Frank Borman, James A. Lovell, jr., and William A. Anders will be boosted into space from Cape Kennedy with 7,500,000 pounds of thrust from the powerful Saturn V launch vehicle. The 6.2-day mission has been designed to make 10 orbits of the moon and return home two days after Christmas.

The spacecraft will spend 20 hours around the moon, coming as close as 60 miles to take still and motion pictures of the pro-

posed landing and landmark tracking sites.

In addition, the crew will perform a thorough checkout of the spacecraft's navigation system while in moon orbit. The mission will also complete the final verification of ground support elements and spacecraft onboard computer programs and confirm the ability of the crew to utilize landmarks during a lunar mission.

In the event a decision is made not to enter lunar orbit, Apollo 8 will circle the moon and return to earth on a so-called free-return trajectory.

According to Lt. General Samuel C. Phillips, NASA Apollo program director, a second Apollo mission to the vicinity of the moon could come next summer if no serious problems develop. Unlike Apollo 8, that mission would include the two-man lunar landing vehicle in addition to the command service module. The entire vehicle would be put into orbit around the moon. Two of the three astronauts could then enter the landing vehicle, separate from the command ship, and descend to about 50,000 feet from the moon's surface.

## Shareholders Told Northrop Expecting Continuation of Earnings Expansion

Thomas V. Jones, president and chairman of Northrop Corporation, told the company's shareholders at their annual meeting last week that "we expect to continue to expand our earnings per share as we move into the future."

Noting that earnings per share registered an average growth of 20 per cent per year over the last five years, Mr. Jones declared that "as I see the programs and opportunities ahead of us, I feel

justified in expressing confidence that we have established ourselves on a growth curve."

Fiscal year 1968 produced the highest sales and total net earnings in the company's history. Earnings per share increased 25 per cent over the previous year. Earnings for the first quarter, which ended October 31, were 27 per cent higher than in the first quarter of last year.

Mr. Jones pointed to the growth of the company's sales in elec-

tronics and communications as an important development and cited the change in Northrop's product mix as a factor in the firm's improved ratio of profit to sales, from 2.7 per cent in fiscal 1967 to 3.2 per cent in fiscal 1968.

Citing the projected need for communications systems throughout the world, Mr. Jones declared, "The opportunities for Northrop in the communications field may well provide one of our greatest growth areas in the future."

## Frederick Stevens Named For Important New Post

Paving the way for further growth at Northrop, two new operating divisions will be created from the Nortronics Division.

Establishment of the two new divisions, which represents a major step in Northrop's blueprint for long range expansion, was announced Tuesday by President Thomas V. Jones.

Frederick Stevens, who has been vice president and general manager of the Nortronics Division for the past seven years, will become vice president, Corporate Diversification, and will move to new offices at company headquarters in Beverly Hills.

The two new divisions will be known as the Electronics Division of Northrop Corporation, headed by Ross F. Miller, and the Electro-Mechanical Division of Northrop Corporation, headed by Frank W. Lynch. Both Mr. Miller and Mr. Lynch will have the title of vice president and general manager.

In a related assignment, D. L. Lewis, vice president and manager of the Finance Department, will join the Corporate Finance staff as a vice president reporting to the Corporate vice president, Finance.

These assignments will become effective February 1.

"At this time, Northrop's long range planning provides a clear definition of our growth goals for the 1970's and an understanding of the sources from which the growth will come," Mr. Jones explained. "While our principal growth will be internally generated, we will continue to pursue a program of logically-selected acquisitions. The size of the company and the rate of its growth have evolved to a point which demands that strong leadership in these activities be applied at the highest level.

"To implement this objective Mr. Stevens will assume the new post of vice president, Corporate Diversification. In pursuing this program our purpose will be to develop diversification that is compatible with Northrop planning and which will contribute logically to our business strength. In his new post, Mr. Stevens will report directly to the president. Of special value to this activity will be Mr. Stevens' background as a general manager and his experience in the leadership and management of projects with a high technical content.

"The organization of the present Nortronics activities into two divisions will provide a better mechanism not only for business growth but for a more sensitive (See NEW DIVISIONS, page 5)



**NORTHROP SHAREHOLDERS** gathered at the Hawthorne Memorial Center last week for their annual meeting. President Thomas V. Jones (left) chats with 13-year-old shareholder Clyde Steele of San Luis Obispo and his grandfather, Newton H. Anderson of Santa Monica. Two interested participants (center) inspect a Northrop Inertial Doppler C-5A Navigation System, part of an outstanding

display of Northrop products on hand. President Jones (right) is flanked by members of the board of directors as he reports to shareholders. Mr. Jones said Northrop expects a continuation of expanded earnings experienced over the past five years. Earnings per share have registered an average growth of 20 per cent per year.



## What Plans Have You Made for The Long Yearend Holiday?



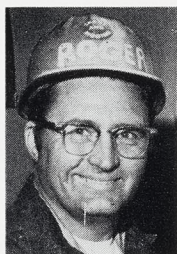
Mrs. Walters

**Trudy Walters, Data Processing, Nortronics Anaheim:**

My daughter and three-month-old granddaughter are flying in from St. Louis during the holidays. So, I suspect my vacation will be spent babysitting and washing diapers. It may not sound exciting, but I'm looking forward to it more than any Christmas I've spent in a long, long time.

**Roger Blackmer, equipment builder, Norair:**

If I am not working, we will load the family—my wife, mother and five daughters, ages 5 to 18—in the camper and go to our cabin at Twentynine Palms. Depending upon the weather, we will go boating on the Salton Sea or tobogganing at Big Bear. California is wonderful, so is Northrop for giving us the time off to enjoy it all.



Mr. Blackmer



Mrs. Stripling

**Curtistine Stripling, technical librarian, Ventura:**

Since my husband and I both work here at Northrop Ventura we have purchased a home in Newbury Park. So, we'll be using the yearend holiday to do all of the unpacking and settling that is necessary. My husband, Moss, who's an engineer will be starting our landscaping during the holiday.

**Sharon Saddler, Command and Control, Nortronics Palos Verdes:**

After the usual time spent wrapping presents for others, unwrapping my own and visiting, I'm just going to take things easy. When I get tired of taking things easy, then I'll take things easier for the rest of the time.



Miss Saddler



Mr. Castelli

**Livio Castelli, photographer, Norair:**

I plan to relive an event that happened almost 30 years ago—a visit to Death Valley. I went there as a school boy and camped out. This time I'll enjoy more comforts. I want to take a lot of pictures, then compare them with others I took 30 years ago. It might prove interesting.

**Anne Reichert, sewing machine operator, Ventura:**

We're going to Las Vegas the day after Christmas and then come home in time to serve leg of pork and sauerkraut to four generations of our family. We're having pork because by German tradition the belief is that serving fowl on New Year's Day will "scratch your luck away."



Mrs. Reichert



Mrs. Baer

**Phyllis M. Baer, secretary, Nortronics Anaheim:**

I like to be with my relatives at Christmas time. The long Northrop holiday will give me an opportunity to visit both my sister and my husband's family back in Idaho. The trip is also attractive because the cold and snow will make it seem more like an old-fashioned Christmas.

**Willie Brown, machine parts inspector, Mari-posa:**

Since we have 13 children, my wife and I have no plans to leave home. During the holidays we'll have lots of relatives dropping in. We'll have about 33 at our place on Christmas Day, including eight grandchildren. After that, we'll just take it easy until New Year's.



Mr. Brown



Mrs. Massey

**Rachel Massey, technical illustrator, Ventura:**

Ordinarily I love to draw portraits in whatever small amounts of spare time I can find. But for the long yearend holiday I'm looking forward to returning to oil painting which requires daylight time and long hours. In particular, I hope to capture the great feeling of peace and quiet which I found on my recent vacation in King's Canyon.



## Christmas Greetings



**To the Men and Women of Northrop:**

Every year—as we become more involved in the world about us—it becomes more important to pause for reflection upon those things which make our lives worthwhile.

This is why I welcome the holiday season as a time to express my appreciation to the people of Northrop. There are more than 25,000 of us now and each one has contributed something of value to the best year in the company's history. I am confident that your competence and loyalty will lead us to even better years ahead.

Mrs. Jones and I wish you a warm and happy holiday season and we hope 1969 will be a healthy and prosperous year for you and your family.

**Thomas V. Jones  
President  
Northrop Corporation**

**To Northrop Ventura Personnel:**

Recently we have been hearing and talking a great deal about change and the effects of change on each of us.

I am most grateful today for the human qualities that have remained immune from the processes of change over the generations. These are the qualities of warmth, understanding, and the ability to work in unity with other individuals to bring about the great achievements of man. When magnified by the Christmas season, these qualities give meaning to the year past and the one beginning. If we can continue to protect and revere these qualities, we have nothing to fear from change.

My family joins me in wishing you and your family a meaningful and happy holiday season.

**Welko E. Gasich  
Corporate Vice President  
and Ventura General Manager**

### YEAREND HOLIDAY

## Still a Benefit Without Precedence

By Alan C. Morgan, Vice President-Industrial Relations

Now in its 23rd year, Northrop's fully paid yearend holiday extending usually from Christmas Day through New Year's Day, is still the only benefit of its kind granted employees by a major Southern California industrial organization.

Additionally, Northrop is one of only a few major concerns that grants a two-week, two-day annual vacation after only one year of continuous employment, along with six paid holidays in the calendar year, including two special "floating" holidays. Northrop's 11 paid holidays during the year in addition to the annual vacation and paid sick leave add up to more than a month of working days.

Probably the greatest benefit of Northrop's vacation and holiday programs is that they are planned to grant more days off continuously, rather than piecemeal during the year, permitting employees

to plan travel and other leisure time activities that require more than a single day.

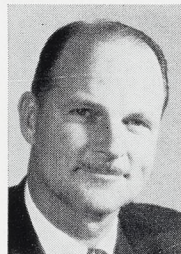
The yearend plan had its origin in a Northrop Industrial Relations proposal to make the company's sick leave benefits more attractive than those of other firms in the area. Instead of paying employees for a given number of sick leave days during the year, it was decided that continuous time off would be granted at Christmas, when most employees want to be at home with their families and friends.

Northrop has long been a lead-

er in using imaginative thinking in the planning of fringe benefits so that the employees' needs and desires are best served for each dollar spent.

As we approach the yearend holiday, let us all remember our Northrop adopted families so that these less fortunate families may all share in the spirit of Christmas.

Have a happy yearend holiday and many more at Northrop.



Mr. Morgan

### VENTURANS PLAN HOLIDAY TOURNEY

A yearend holiday golf tournament has been set for Northrop Ventura golfers on December 30, according to Dick Kipp, commissioner.

Action will be at Soule Park Golf Course, Ojai. Tee off time is 8 a.m.

Green fees are \$2.50 and golf carts will be available for rental at \$7. Deadline for entry is Friday.

## Northrop Prepares 1,000th T-38 for Delivery to USAF

The 1,000th Northrop T-38 supersonic trainer to be built for the U.S. Air Force will be delivered January 7 in special ceremonies at Palmdale.

Lt. General Sam Maddux, jr., commander, Air Training Command (ATC), will accept the aircraft from Maj. General Daniel E. Riley, commander of the Air Force Contract Management Division. Thomas V. Jones, Northrop president, will make the official presentation of the aircraft to General Riley.

Approximately 270 Air Force and industry personnel are expected to attend the ceremonies.

Since the T-38 first entered the Air Force in 1961, nearly 11,000 ATC students have graduated from the pilot training program

following final training in T-38's. Currently, T-38's are being flown about 40,000 hours per month and have amassed a total approaching two million flight hours since entering service.

Next summer, the 10th ATC base utilizing the Northrop T-38 in undergraduate pilot training will be activated at Columbus AFB, Mississippi.

The T-38 has the best safety record of any supersonic aircraft in the USAF inventory.

In addition to Air Force use, the T-38 is being used by NASA for flight readiness training of astronauts. Forty-three T-38's are in use by the German Air Force in training its student pilots at Sheppard AFB, Texas.

## Jones Tells of Growth Plans At Northrop

"The state of the company is good. It is also challenging and demanding."

Thus did President Thomas V. Jones begin his annual "state of the company" message to the Norair Management Club last Friday.

Addressing the largest gathering in the history of the Norair Club, Mr. Jones declared, "If you look back over the fiscal year that ended last July 31, you see a record of substantial growth and good results. If you look back over the first three months of the present fiscal year, you see that growth and those results continuing."

"But when you look ahead to the build-up we still have ahead of us—when you see the immensity of the tasks we have taken on—you know that we are going to have to do a mighty good job all the way if we are to maintain our upward trend lines."

Pointing to the record sales and earnings of 1968, Mr. Jones said, "As I see the programs and opportunities ahead of us, I feel justified in expressing confidence that we have established ourselves on a growth curve. Our operating plans indicate that we will reach a level approaching \$700 million in sales in 1970, and with the help of a few acquisitions we would expect to approach a billion dollars in volume by 1972."



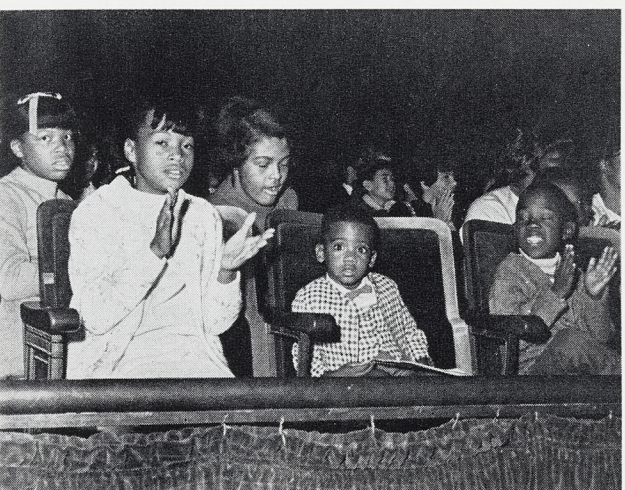
# NRC Christmas Parties Delight The Young at Heart



THE SCENES ABOVE WERE SNAPPED AT NORTRONICS ANAHEIM WHERE NRC WAS HOST TO 2,500 ADULTS AND YOUNGSTERS.

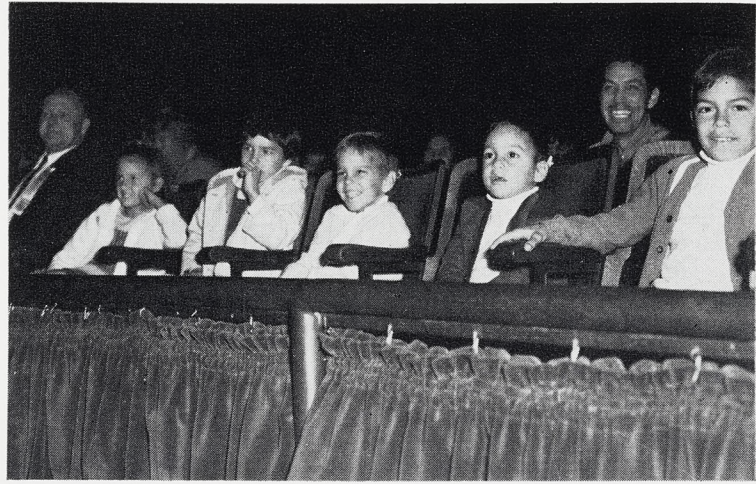


NORTHROP VENTURA'S CHRISTMAS PARTY (ABOVE) FEATURED ANIMAL ACTS, SANTA CLAUS, GIFTS AND REFRESHMENTS.



*NORTHROP'S 28th annual Children's Christmas Party at the Shrine Auditorium, December 8, entertained a crowd of 17,500 at three shows. The photographs surrounding this caption highlight activities there. More than 100 volunteer workers assisted Northrop Recreation Clubs in staging the event.*

**Photos by  
Ron McGaffin**





# Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

Automobiles For Sale	
Station Wagon, 1962 Rambler, 4-dr., Hydramatic, \$350. 213-632-1666.	A
Econoline, 1967 Supervan, Big 6, auto., hvy. duty, \$1,995. 213-378-8136.	A
Buick, 1962, Special, DeLuxe V-6, r/h, auto. trans., \$550. 213-320-5627.	A
Chevrolet, 1967 Impala S.S., 2-dr. h/top, 396, Turbo Hydramatic, p/disc brakes, p/s, a/c, sp. suspension, \$2,500. 213-323-7544.	A
Corvette, 1965 Sting Ray, 327/365 h.p., 4-spd., posi., air, \$2,995. 213-831-4586.	A
Buick, 1962 Electra 225, 2-dr. h/top, fully equipped, \$850. 213-324-2992.	A
MG, 1957, \$500. 213-545-3495.	A
Chevelle, 1964, Malibu S.S., 283 cu. in., 4-bbl. carb., 4-spd., synchro-mesh trans., r/h, \$1,295. 213-776-0393.	A
Chrysler, 1957 New Yorker, \$100. 213-423-5956.	A
Dune Buggy, VW chassis, '67 eng., \$2,000. 213-377-5059.	A
Corvette, 1965 convt., 300 h.p., 4-spd. trans., AM-FM radio, posi. \$2,395. 213-472-2551.	A
Dune Buggy, VW, w/tow bar, \$850. 213-377-3563.	A
Volkswagen, 1963 bus, rebilt. eng., new clutch & brakes, \$1,150. 213-372-5639.	A
Opel, 1968 Kadett LS Deluxe sports cpe., 1500 cc eng., w/hvy. duty drive train, r/h, \$1,900. 213-644-6935.	A
Volkswagen, 1966 sedan, r/h, \$1,250. 213-422-4942.	A
MGB-GT, 1967, 4 cycle 98 h.p., AM-FM radio, \$2,700. 714-528-6914.	A
T-Bird, 1955, stick shift & o/drive, 2 tops, needs work, \$900. 213-833-4198.	A
Chevrolet, 1965 Impala S.S., 2-dr. h/top, V-8, auto. trans., p/s, r/h, \$1,595. 714-826-2209.	A
Volkswagen, 1967 fastback, AM-FM radio, \$1,775. 213-323-8089.	A
Grand Prix, 1962, all power, air, \$750. 213-754-3914.	A
Edsel, 1958 Pacer, h/top, \$800. 213-325-1571.	A
Oldsmobile, 1963 98 h/top, full power, \$795. 213-735-0926.	A
Buick, 1963 Special, 4-dr., V-6, \$350. 213-675-2448.	A
El Camino, 1959, \$700. 213-675-8822, 213-679-8397.	A
Buick, 1963 Riviera, full power, a/c, \$1,150. 213-370-9170, 213-672-1868.	A
Ford, 1960 Starliner, \$225. 213-866-2785.	A
Mustang, 1967 Fastback, 289 2+2, p/s, fact. air, \$1,950. 213-671-2930.	A
T-Bird, 1955, newly o/hauled eng., p/b, 2 tops, \$1,650. 213-379-1031.	A
Mustang, 1965, auto. V-8, 289, d/brakes, \$1,495. 213-374-3943.	A
Chevrolet, 1955 Nomad, new paint & int., \$750. 213-635-3824.	A
Pontiac, 1966 Tempest, sport cpe., 250 h.p., V-8 eng., auto. trans., \$1,295. 213-370-3821.	A
Chevrolet, 1956, 2-dr., 295 eng., stick, \$350. 213-670-4702.	A
Ford, 1963, 4-spd. trans., 4-bbl. carb., \$650. 213-865-0197.	A
Ford, 1961 Galaxie, a/c, p/s, r/h, Fordomatic trans. needs work, \$100. 213-370-9558.	A
Pontiac, 1965 GTO, Hurst 4-spd., tri-carbs, hvy. duty suspension, p/s, AM-FM, \$1,700. 805-495-8077.	A
Rambler, 1962 Classic, 2-dr., \$400. 213-474-5644.	A
Corvette, 1966, 300 h.p., 4-spd., removable h/top, \$2,990. 213-391-3715.	A
T-Bird, 1960 p/windows & seat, \$350. 213-370-6444.	A
Camaro, 1967, fact. air, auto. trans., r/h, p/s, \$2,300. 213-374-6841.	A
Volkswagen, 1955, r/h, \$150. 213-534-2419.	A
T-Bird, 1965, d/brakes, fact. air, AM-FM radio, full power, \$2,100. 213-374-1674.	A
Corvair, 1966 Monza, \$1,350. 213-892-0035.	A
Chevrolet, 1959, 2-dr., p/s, auto., \$175. 213-674-5793.	A
Cadillac, 1949, 4-dr., \$200. 714-635-0627.	A
Dodge, 1961, 4-dr., new tires, \$495. 213-676-4126.	A
Volkswagen, 1967, suntop, radio, \$1,600. 213-772-5752.	A
Pickup Truck, 1967 Dodge, 8' bed, a/c, r/h, 225 cu. in., 6-cyl., 3-spd., \$1,700. 213-532-7175.	A
Station Wagon, 1962 Olds F85, 9 pass., a/c, p/b, p/s, r/h, \$595. 213-755-7166.	A
Firebird, 1968, 9,000 mi., 6-cyl., full power, radio, stereo, \$3,000. 213-377-8609.	A
Volkswagen, 1966, w/VW a/c, \$1,450. 213-378-7479.	A
Volkswagen, 1966 Camper, completely equip., \$200 & take over 20 pymts. of \$113 ea., \$2,260 approx. bal. 213-377-3244.	A

Automobiles For Sale	
Ford, 1962 Fairlane 6, r/h, \$275. 213-320-8833.	A
T-Bird, 1960, a/c, \$625. 213-673-2559.	A
Pickup, 1964 Ford, 3-spd., std. trans. w/overdrive, 292 V-8 eng., \$1,095. 714-827-7189.	A
Porsche, 1960, sunroof, new clutch & paint, \$2,100. 213-644-6475.	A
Porsche, 1967 912, 4-spd., AM-FM-SW radio, \$4,500. 213-439-4600.	A
Chevrolet, 1964 Biscayne, 2-dr., std. trans., 6-cyl., p/s, r/h, \$725. 213-675-4553.	A
Chevrolet, 1959 Impala, 2-dr. h/top, p/s, p/b, r/h, \$400. 213-378-2930.	A
Buick, 1965 Riviera GS, full power, a/c, \$2,500. 213-370-2991.	A
Porsche, 1968 912, chrome whls., AM-FM radio, \$5,150. 213-324-8636, 213-324-3669.	A
Household Items For Sale	
Dryer, Speed Queen, 220 V., elec., \$50. 213-671-0859.	B
Rocking Chair, mahogany, antique, \$75. 213-823-1910.	B
Washer, 1962 Maytag, recently rebilt., \$35. 714-639-2509.	B
Youth Bed, dresser, Edison, 1 yr. old, \$75. 213-679-0848.	B
Cedar Chest, 19"x44", walnut, \$15. 213-675-6020.	B
Table, birch Harvest, w/pads, 4'x6', \$135. 714-774-4853.	B
Deep Fryer, Sunbeam, \$7.50. 213-377-3806.	B
Bedroom Suite, blonde, \$75. 213-833-0742.	B
Dishwasher, 1967 G.E. portable, top loader, white, \$90. 213-645-5786.	B
Sofa, pale blue & silver, \$25. 213-672-5647.	B
Dinette Table, 4 chairs, \$25. 213-329-9664.	B
End Tables, oiled walnut, incl. coffee table, \$35. 213-326-0340.	B
Stove, Norge, gas, \$40. 213-326-1178.	B
Box Spring, mattress, twin size, w/bookcase headboard, maple, \$40. 213-472-2818.	B
Dinette Set, chrome, 8 chairs, beige & brown, \$75. 213-672-4511.	B
Silverware, 129 pcs., monogram C, silver-plate, w/chest, \$60. 213-673-1133.	B
Dining Table, antique, dropleaf, walnut, seats 8, \$75. 213-373-5164.	B
Dining Room Set, dropleaf French provincial, 4 chairs, \$75. 213-823-1564.	B
Dinette Set, table, formica top, 6 hi-back chairs, \$65. 213-674-8361, 213-645-8067.	B
Rug, 9x12, modacrylic fiber shag, 2 shades of gold, used 1 month, \$99. 714-633-3657.	B
China, Wentworth Silver Wheat pattern, serv. for 8, incl. snack set, extra cups, \$80. 213-676-6303.	B
Range, white, Gaffers & Sattler, 5½ yrs. old, full size, \$65. 714-839-2139.	B
Bed Set, twin, firm ortho. mattresses, box springs, walnut-stained bedsteads, \$95. 213-377-5936.	B
Sewing Machine, Universal Deluxe Streamliner, all attachments, \$75. 213-831-6969.	B
Miscellaneous For Sale	
Lawnmower, Sears lightweight, \$25. 213-532-8294.	C
Air Conditioner, ¾ h.p., Coldspot, \$35. 213-327-5376.	C
Sliding Glass Doors, windows & channel, 15' sec. & 6' sec., \$105 or sell sep. 213-861-6404.	C
Helmet w/tinted plastic bubble, \$25. 213-534-3100.	C
Wedding Dress, Cahill gown, ivory brocade, chapel train, long sleeve, empire styling w/veil, size 10, \$60. 213-679-4241.	C
Cemetery Lots, Inglewood Park, 2 dbles., Park Terrace, \$780 ea. 213-324-1914.	C
Chord Organ, \$18. 213-676-5101.	C
Air Compressor, portable, 1½ h.p., 230 V., 10-gal. tank, trailer hitch, 2 50' hoses, \$250. 213-677-4215.	C
Rifle, British 303 Enfield, w/cleaning kit & 150 rounds ammo, \$50. 213-644-2618.	C
Rocking Horse, Wonder Mare, \$12. 213-376-8250.	C
Pup, poodle, AKC reg., black male, \$50. 213-754-3665.	C
Tire Chains, fit 7.10-15 or 8.00-14 tires, \$5. 213-294-6390.	C
Road Race Set, Riverside Monogram, 2 cars, 1/24 scale, \$60. 213-676-8738.	C
Utility Trailer, 4x8, \$125. 213-326-1409.	C
Organ, Conn, light walnut, full size key boards & pedal, \$750. 213-542-3450.	C
Sailboat, 28' wooden sloop, inbd. eng., dacron sails, sleeps 4, \$4,900. 213-378-4352.	C
Projector, RCA mod. 400, 16mm sound, \$125. 213-324-0086.	C
Bicycle, girl's 24" Schwinn, \$17. 213-324-8853.	C
Wig, deep auburn, human hair, w/stand & box, \$25. 213-448-9620.	C
Grills, for fireplace, Heat-A-Lator, \$7. 213-376-4831.	C
Bicycle, 10-spd. Derailleur full Campagnolo equipt., 21" frame, \$69. 213-376-5139.	C
Tire Chains, for VW or similar size, \$7.50. 213-889-0326.	C
Swing Set, tubular steel w/3 swings & teeter totter, \$10. 213-370-7092.	C
Golf Clubs, 1, 2, 3, 4 Wilson woods, & 2-9 Spalding Elite irons, sand & pitching wedges, \$130. 213-375-4340.	C
Ski Poles & sport car rack, \$20. 213-329-2740.	C
Pups, miniature dachshund, AKC, \$100. 213-833-3944.	C

Miscellaneous For Sale	
Bicycle, girl's 26", \$15. 213-324-7730.	C
Pups, poodle, 6 wks. old, sassafras toy lineage, AKC reg., males, \$100; females, \$125. 213-375-1660.	C
Movie Outfit, Technicolor, Super VI 8 mm camera & projector mod. 580 & screen, take over \$19.27 mo. pymts., \$582 approx. bal. 213-645-8611.	C
Cabin Cruiser, 21', 283 cu. in. Chev. in-board, incl. trailer & all equip., \$3,000. 213-542-2098.	C
Sailboat, Cascade 29, partially complete, fiberglass hull & cast iron keel, \$3,200. 213-329-9882.	C
Sailboat, 37' Zeeland cutter-yawl, diesel, fully founded, \$21,000. 213-672-7424.	C
Ski Kite, Banta w/slalom conversion, \$99. 213-343-8665.	C
Encyclopedia, Grolier, set, w/yearbooks & shelf, \$75. 213-396-6739.	C
Camper, 8' cabover, \$400. 213-374-7059.	C
TV, portable, needs work, \$20. 213-373-3792.	C
Motorcycle, 1966 Triumph Bonneville, 650 cc, extras, \$875. 213-363-3843.	C
Motorcycle, Honda, CB 160, extras, \$325. 213-638-2457.	C
Tricycle, Murray, 10", \$9. 213-321-2674.	C
Spoke Wheels, 5 restored 1934 Ford, 17", w/tires & tubes, \$20. 213-641-1393.	C
Boat, 16', mahogany, lapstrake, 75 h.p. Evinrude, 12-gal. tanks, full cover, incl. 2 mos. slip rent, \$750. 213-677-1681.	C
Guitar, elec., Fender Stratocaster, & case, \$175. 213-371-9925.	C
Chain Saw, Homelite, gear dr., 36" cutter bar & chain, \$85. 213-375-0915.	C
Fur Stole, worn twice, \$250. 213-326-2138.	C
Doors for Volkswagen, \$10 ea., other parts, sell sep. 213-644-8385.	C
Drums, complete set, \$175. 213-755-0014.	C
Piano, spinet, \$450. 213-323-0029.	C
Trailer, 8'x35', 1954 Glider Coach w/cabana, furn. within walking distance of Northrop, \$1,150. 213-676-7387.	C
Telescope, astronomical, 50mm lens, rack & pinion focusing, deluxe wood case, \$30. 213-323-6717.	C
House, 4-bdrm., 2 baths, 3 mi. from Nort. Anaheim, a/c, f/pace, new paint & cpts., \$25,250. 714-871-7640.	C
Guitar, Silvertone, \$20. 213-372-3827.	C
Tire Chains, will fit 6:00x15, 6.50x14, 6.40x14, \$8. 213-325-2512.	C
Train Set, American Flyer, \$20. 714-826-4031.	C
Record Player, 1967 R.C.A. portable stereo, 6 spkrs. w/detach boxes, \$95. 213-374-3376.	C
Motorcycle, 1966 Suzuki, 250cc X6 Hustler, \$275. 213-377-1008.	C
Saw, Craftsman radial arm, incl. 10" & 7" blades, steel cabinet w/dwr., other extras, \$250. 213-328-9827.	C
R. C. Airplane model, w/10 ch. Kraft Reed transmitter & receiver, .45 eng., \$100. 213-378-7478.	C
Sailboat, 45' Supersatellite, many extras, trailer, \$695. 805-483-5644.	C
Acreage, 1 acre, Lake Los Angeles, \$800 & take over \$40 mo. pymts., \$3,700 approx. bal. 805-526-7767.	C
House, 2-bdrm., new paint, cpts., dps., dbles. det. gar., 15 min. from Northrop, 20% financing, \$19,000. 213-323-2753, 213-325-0693.	C
Kittens, sealpoint Siamese, purebred male & female, \$20. 213-377-2552.	C
Stereo, Packard Bell, F.M. multiplex 54" walnut console w/Garrard turntable, \$150. 714-892-8848.	C
Cello, German-made, full size, \$225. 213-430-7274.	C
Encyclopedia, 16 vol. set, How To Do It, \$10. 213-321-2848.	C
Motorcycle, Honda 150, recently rebored, elec. start, \$190. 213-325-3452.	C
Camera, Retina IIIC f/2.0 lens, case, 80mm telephoto & 35mm wide angle lenses, \$130. 213-670-2564.	C
Home, 3-bdrm., 2 baths, near Del Amo Center, new paint, assume 5½% G.I. loan, \$28,450 or lease. 213-542-4445.	C
Pickup Bed, 1966 Fleetside, \$100. 213-372-7860.	C
Stereo Radio, Philco AM-FM, & 4-spd. record changer, 2 sep. walnut cabinets, \$100. 213-677-3994.	C
Aquarium, 20 gal., pump, filter, htr., wrought iron stand, \$40. 714-528-2382.	C
Pistol, .357 magnum Colt Trooper, Lee loader, 1.26X scope, holster & ammo., \$140. 714-776-1917.	C
Bicycle Built For Two, Schwinn Delux, 5-spd., \$80. 805-498-3308.	C
Surfboard, Yater Spoon, 9'8", \$75. 213-987-1384.	C
Typewriter, Smith-Corona portable, elec., 12" carriage, case, \$120. 213-279-1219.	C
Tires, 4, Goodyear Double Eagles, 7.75x14, recapable, \$2.50 ea. 213-675-0788.	C
Air Conditioner, Fedders, 7700 btu, window type, \$75. 213-327-3795.	C
House, 3-bdrm., 2 baths, heated pool, P.V. Pen., \$42,500. 213-377-6029.	C
Mag Rims, 2 14" & 2 Casler Scrambler tires, 950x14 Dunlop Elite, nylon tubeless, \$100. 714-521-8309.	C
Accordion, 120 bass Contello, \$120. 714-522-4947.	C
Ski Boat, Bristol Hull, 75 h.p. Johnson, lge. wheel trailer, many extras, \$950. 213-337-6004.	C
Home, 3-bdrm., 6 yrs. old, newly redecorated, many extras, \$24,500. 213-375-8993.	C

Miscellaneous For Sale	
Sail Dinghy, 9½, dacron sails, sand dolly, cartop carrier, \$150. 213-321-1655.	C
House, 3-bdrm., 2-car gar., cpts., a/c, corner lot, n.w. Arkansas, \$19,000. 213-242-5280.	C
Motorcycle, 1968 Honda Super Hawk, 305 cc, rack incl., \$550. 213-673-0859.	C
Acreage, ¾ acre, 200 yds. east of Lake Los Angeles, zoned R-3, util. & roads, \$8,000. 213-673-4280.	C
Auto Radio, Bowman, AM 5 Pushbutton, 1968, \$30. 213-327-9338.	C
Motorcycle, 1966 BSA, 1,500 miles, \$380. 213-675-5695.	C
Pistol, Smith & Wesson M41 .22 cal. auto., \$100. 213-644-3439.	C
House, 3-bdrm., 2 baths, new cpts., close to Del Amo Shopping Center, \$27,500. 213-325-3724.	C
Acreage, 2½ acres, Antelope Valley, \$42 dn., \$42 mo., no int., \$4,200. 213-378-1026.	C
Motorcycle, 1966 Yamaha Twin 100, \$195. 714-523-2495.	C
Postiche, black, European human hair, 3-oz., approx. 8", \$15. Box 2501.	C
Home, 5-bdrm., 3-car gar., central a/c, undg. util., 600 sq. ft. brick & redwd. patio, landscaped, sprinklers, fences, dps., near Northrop Ventura, \$38,500. 213-889-8075.	C
Surfboard, 9'10" Gordon & Smith, Mike Hynson model, \$115. 213-378-4833.	C
Camera, Minolta Autopak 500, elec. eye, never used, \$30. 213-375-4574.	C
Pups, golden retriever, 8 wks. old Dec. 20, AKC reg., all shots, 3 females, \$125 ea., 3 males, \$150 ea. 213-377-4018.	C
Snowmobile, 1967 Polaris Colt 140, 15 h.p. 300 cc Hirth eng., trailer, \$750. 714-838-7161.	C
Speaker, hi-fi w/cabinet, 12" Jensen dual-cone 16 ohm, \$15. 213-329-1705.	C
Stereo console, hi-fi w/4-spd. changer & AM-FM radio, \$75. 213-326-5731.	C
Motorcycle, 1967 BSA Victor 441, \$650. 213-371-1905.	C
Go-Kart, 1967 Dart Chapparral Enduro, air heart d/brake, Horstman clutch, \$425. 213-675-2813.	C
Ping Pong Table w/net, brackets, \$25. 213-372-2313.	C
Camera, Polaroid Swinger, w/case, \$10. 213-675-8813.	C
Wanted to Buy	
Ski Rack, & snow chains for 7.35x14 tires. 213-770-0504.	D
Camper Jacks, for cabover camper. 213-329-1723.	D
Jeep, 4-wheel drive, in good condition. 213-370-7749.	D
Doll House, walk-in type, wood constructed. 213-325-7759.	D
Chevrolet, 1949 through 1954. 213-378-3600.	D
Hat, sapphire or natural ranch mink, pillbox or other type, about 22½ or 23 size. 213-376-4787.	D
Motor, electric, 110 V., 1/3 to 1.0 h.p., ball bearings preferred. 714-897-5874.	D
Wall Heater, dual, vented style w/thermostatic control. 213-376-5192.	D
For Trade	
Mower, 4-cycle, rotary, trade for air compressor. 213-324-5449.	E
Free (To Be Given Away)	
Pups, ¼ cocker, ¾ terrier, b&w & black males. 714-529-6762.	F
Redwood Fencing, 100' used. 213-379-1049.	F
Dog, sheltie miniature collie, thoroughbred female, 6 yrs. old, desires home w/children, needs enc. yard. 213-378-1486.	F
Dogs, 2 beagle. 213-397-7266.	F
Kittens, 3, 6 wks. old. 213-323-0184.	F
Rentals Offered	
Duplex, furn., 1-bdrm., carport, cpts., dps., \$95 mo. 213-679-2121.	G
Apt., 2-bdrm., cpts., dps., bltins, closed gar., small fenced yd., avail. Jan. 1, \$125 unfurn.; \$145 furn. 213-375-2091, 213-375-9397.	G
Condominium, 2 story, 3-bdrm., family rm., fenced patio, pool & clubhouse facilities, \$230 mo. 714-531-3840.	G
Apt, Hermosa Bch., need roommate, gar., \$75 mo. 213-372-8196.	G
Bachelor Apt, utilities incl., \$75 mo. 213-679-8394.	G
Cabin, Green Valley, \$25 w/end; \$45 wk. 213-324-0649.	G
House, 2-bdrm., new kitchen, lge. fenced yd., gar., avail. Dec. 21, \$140. 213-679-2771.	G
House, 2-bdrm., bltin stove & oven, cpts., dps., new paint inside, N. Torrance, avail. after Jan. 1, \$160. 213-329-0504.	G
Cabins, Idyllwild, 1 & 2 bdrms., f/place, stream, patios, \$20-\$35 w/ends; \$45-\$75 wk. 213-754-5288.	G
Lady wanted to share apt. in Leisure World, \$75 mo. 213-374-4944.	G
Apts, Anaheim area, 2-bdrm., 2 baths, sunk-en liv. room, a/c, elec. stoves, \$150-\$200. 714-776-8383.	G
Apt, 3-bdrm., furn., cpts., dps., bltins, lge. pool, closed gar., near El Camino, adults, \$170. 213-329-5986.	G



# Recalling Memories of Christmases Past



Willard Wade

In Dickens' "Christmas Carol," Scrooge was haunted by ghosts of Christmases past. Northrop personnel also remember spirits of other holiday seasons, but theirs are pleasant memories.

• One is Willard Wade, Nortronics Anaheim, who insists that Christmas does not always come on December 25. In 1920, when he lived in a mountain community in Colorado, it came on January 3.

That year the winter was especially severe. The narrow gauge railroad that brought in all supplies was snowbound. Christmas came and went. When the tracks were finally cleared on January 3, everyone in town was so overjoyed they all went out on snowshoes to welcome their incoming Christmas.

• The Reverend John Chambers, Norair counselor, recalls an Eskimo feast at Point Barrow, Alaska, as his most memorable Christmas.

The menu: frozen raw whale skin and blubber, frozen raw fish, frozen raw caribou, duck soup with rice, tea and coffee.

"We had to work hard to get it down," Reverend Chambers, then pastor of three churches covering 40,000 square miles, said, "but we did and it was surprisingly good."

• The most vivid memory of Irene Varo, Palos Verdes, is of the tree she carried across Europe in a boxcar. It was the end of World War II and her family was returning to its native Hungary from Germany.

The young teenager was afraid she couldn't get a tree in Budapest. So she carried one with her across Europe. It was taller than she was, but she refused to part with it.

By the time she got to Budapest, the tree was shedding badly. The ornaments were makeshift and there were no presents to go under it. Despite that, this Christmas is brightest in her mind because of the tree she struggled so hard to have.

• Tom O'Malley, Norair transport pilot, has flown for 41 years, logging 22,000 hours and covering five million miles. He has had many memorable experiences in these years, but remembers best the Christmas he was "forced" to spend with ten pretty girls.

He was then a TWA pilot flying for the Air Transport Command in World War II. His C-54 lost an engine two hours out over the Atlantic inbound for Paris. He changed course and landed at Lisbon, Portugal.

Portugal was neutral, so plane, crew and girls were interned over the holidays before being released in January.

"We were lodged in a fine hotel and had complete freedom," he recalled. Then thinking of the girls, he added, "plus delightful company."

• The memory Kathy Glines, Navigation department, Hawthorne, cherishes most is also about a tree. When she was a child in San Francisco, she loved the brilliantly decorated tree more than the presents. So she begged her mother to leave it up until her birthday on February 6.

The tree held up pretty well and to the little girl it was just like having 40 days of Christmas.

• The holiday season that Karen Burce, Norair Hawthorne, remembers most is the one she had to borrow from her mother.

Karen had planned a big dinner for 16 guests. Suddenly her house filled with smoke. A cigarette dropped behind a couch had caused a fire.

Her husband grabbed the first liquid he could find. It was the pot she was boiling giblets in for her dinner.

The fire was extinguished before it did major damage, but the house was a mess and her dinner ruined. Frantic, she called her mother.

"I have 16 guests, no dinner, no house!" she wailed into the phone.

After her mother got over the initial shock, she came through and donated



Reverend Chambers



Irene Varo



Tom O'Malley

her own dinner and house for Karen's party.

• Dorothy Peringer, Nortronics Anaheim, remembers most the saddest Christmas of her life. She was awakened Christmas night by a noise downstairs. She rushed to the stairs, sure she would at last see Santa Claus.

All she saw was her father and mother putting presents on the tree. She rushed to the window. There was no sled or reindeer outside either. The little girl realized then that Santa was a myth. She cried softly.

The next day the tree was as gay and the presents as nice, but something was missing: a jolly fat man in a red suit. Christmas would never again be the same.

• From Johnnie Via, Northrop Ventura, comes recollection of a heart-warming Christmas for children of his enemies. It was 1944 and he was in the Seabee hospital on Saipan. There were 100 Japanese children in the prisoner of war camp there. The Seabees decided they should have a Christmas.

They made a makeshift Santa suit from a mattress cover dyed red with wild berry juice. This, plus a beard made of cotton from the dispensary, fitted out a Santa Claus.

Then Johnnie and other members of his battalion donated presents and candy from home to make the party complete.

Johnnie was too ill to go to the party himself, but he watched it from his quonset hut hospital window. In the distance the sounds of war reminded him that there was little "goodwill toward men" that day, but in the mess tent there was plenty goodwill toward children.

• The most vivid memory of Millie and Leo Guolo, is of a holiday they spent "190 years ago." The two Anaheim employees with their

daughters arrived in Williamsburg, Virginia, during the holiday season. The historic town has been restored as it was in the 1770's.

"We took part in the traditional colonial candlelighting," Millie recalled. "Each of us carried a lighted candle as a drummer boy and fife player led us through the dark street."

As they passed each house, candles were lighted in the windows and the residents, in colonial costume, joined the procession. The parade of flickering lights ended at the mansion once occupied by the English governor.

"With the old time dresses in the candlelight, we felt like we had gone back in time to the days of young George Washington."

"Now when I read about colonial times," Millie said, "the characters aren't just names in a book. I feel I know them and that we shared a Christmas '190 years ago!'"

• The most memorable Christmas "so far" of Reiji Matsui, Northrop Ventura, was the time he had four Christmases with three different sets of relatives in four different cities in three climates, in 26 hours.

When Reiji left Tokyo to join his family in America after an 11 year separation, friends and relatives came out in the snow to give him a sayonara party at the airport.

It was still Christmas Eve, courtesy of the International Date Line, when he arrived in Honolulu. Here relatives whisked him off to a Christmas swimming party at Waikiki Beach.

Christmas morning he was welcomed to San Francisco by fog and rain.

It was still Christmas Day when he landed a few hours later in Los Angeles' sun to be welcomed by his mother and brother.

While this was truly a memorable occasion, he insists that it is only the most memorable "so far." The reason for this is that he will be married this Christmas Eve and will fly off Christmas Day to Hilo, Hawaii, for his honeymoon.

"And that," he said with conviction, "will be the most memorable!"



Kathy Glines



Karen Burce



Dorothy Peringer



Johnnie Via



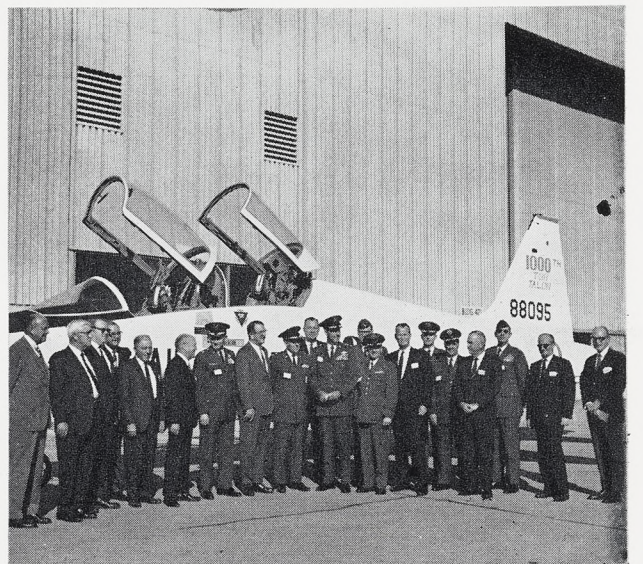
Millie Guolo



Reiji Matsui



# NORTHROP DELIVERS 1,000th T-38 TO AF



**HISTORIC OCCASION**—Ceremonies at Palmdale last week marked delivery of the 1,000th Northrop T-38 supersonic trainer to the USAF's Air Training Command. Delivery ceremony, left, finds R. R. Nolan, senior vice president—Manufacturing and Administration, accepting symbolic payment check from Major General D. E. Riley, commander, AF Contract Management Division, as Lt. General Sam Maddux, jr., commander, USAF ATC, and F. W. Lloyd, vice presi-

dent and Norair general manager, look on. A part of the crowd, center, attending the event listens to remarks by Mr. Nolan. Top military, civilian and company officials on hand for the occasion pose before the 1,000th T-38, right. Following ceremonies, aircraft was flown to Randolph AFB, Texas, where welcoming ceremonies were held.

## NORTHROP NEWS

VENTURA EDITION

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January 15, 1969

### 'FINE WORKMANSHIP'

## Ventura's Apollo 8 Role Praised

The flawless performance of Northrop Ventura's Earth Landing System in the historic Apollo 8 flight has brought a congratulatory letter from officials at North American Rockwell Corporation's Space Division.

Dale D. Myers, vice president and Apollo Program manager at North American, said in the letter to Welko E. Gasich, vice president and general manager at Northrop Ventura:

"I wish to congratulate you and each of your Apollo team members for their individual contribution to the success" of the Christmas mission to the moon.

"Our mutual dedication to the rigors of the Apollo Program have been justly rewarded," the letter adds. Future flights will benefit from the Apollo 8 experience and from the "continued fine workmanship of the Apollo team members."

Northrop President Thomas V. Jones, advised Mr. Gasich:

"I want to extend to you and to the people of the Ventura Division my heartiest congratulations on your contribution to the historic Apollo moon flight. Since the completion of this tremendous achievement, millions of words of praise have been written as to the perfection of every phase of the flight—and none was more perfect than the Earth Landing System produced by Northrop Ventura.

"The devotion of your people to their crucial task and their pride of workmanship have earned the admiration of all of us throughout the entire corporation and of all those connected with this great and remarkable project. Please pass on to your people my personal thanks for a job perfectly done and extend to them the gratitude and appreciation of all the Northrop family."

With the flight an overwhelming success, NASA and Northrop Ventura now can look forward to future Apollo flights. Apollo 9 will orbit the earth in February, Apollo 10 will, for the first time, send a lunar landing module along with

the command ship module to within 10 miles of the moon's surface in May, and a lunar landing will occur possibly in Apollo 11 as early as July or August.

In addition to the many in-flight accomplishments of Astronauts Frank Borman, James Lovell and William Anders, Apollo 8 re-entered the earth's atmosphere on schedule precisely within the prescribed critical re-entry angle. Thereafter Northrop Ventura's chutes performed perfectly, lofting the spacecraft to a comfortable splashdown in the darkness before dawn in a remote area of the mid-Pacific about 550 miles from Christmas Island.

## Four More Venturans Join Select Snoopy Club Ranks

Outstanding contributions to the Apollo program have earned four more Northrop Ventura employees a membership in the NASA Astronauts-sponsored Snoopy club.

This is the second group of Ventura workers honored by the astronaut since the Snoopy program began late last year.

Receiving their Snoopy pins from John F. Mihelich, director

### IDEAS 'PAY' FOR THREE SUGGESTERS

Suggestion award checks for the most recent "better ideas" have been presented to three employees at Northrop Ventura.

James Born of the 747 Final Assembly unit earned an award of \$17 for his suggestion to use riveting tape to hold -4 fillets to a -3 rod while working.

Irene Yabu of the Employment department suggested a new personnel interview form and was presented \$15.

Lewis Keener in the Spotweld department took home a check for \$15 for his idea for a stand to support materials while spotwelding.

of Apollo Material, North American Rockwell Corporation's (Downey) Space Division were:

—Robert J. Boulanger, engineer specialist, Engineering.

—Glen Estes, foreman, electrical, Manufacturing.

—William H. Freeman, space systems, Marketing.

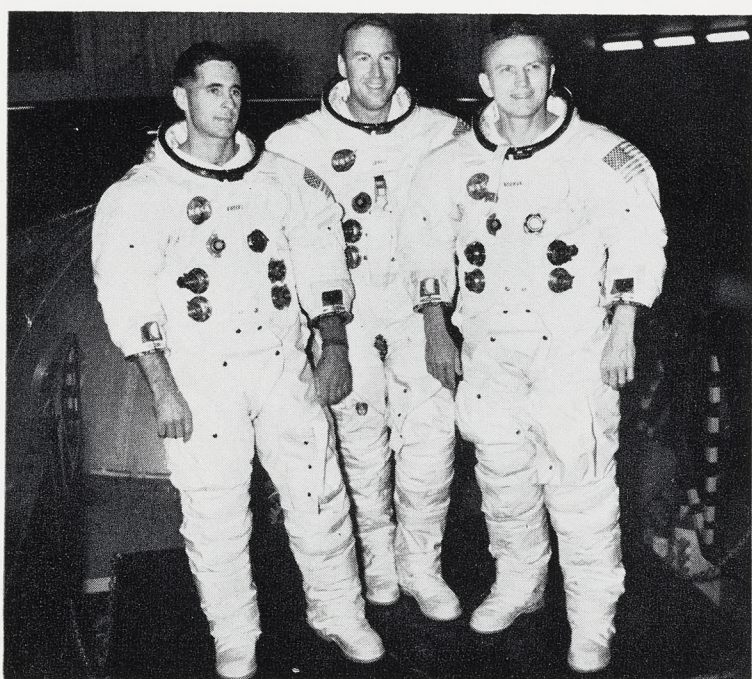
—Stanley E. Nutter, project lead inspector, Quality Control.

These men, Mr. Mihelich said at ceremonies in the office of Welko E. Gasich, vice president and Ventura general manager, played key roles in the ultimate performance of the Earth Landing System which brought the Apollo 8 astronauts back safely from their historic moon orbit.

Northrop Ventura's Earth Landing System has been used in all of the Mercury, Gemini and Apollo missions.

Accompanying Mr. Estes for the presentation was M. A. Maurer, vice president, Production. With Mr. Boulanger was George C. Grogan, vice president, Engineering, while Bob Hutton representing George Johnson, acting manager, Quality Control, was with Mr. Nutter, and Bob Bow-

(See SNOOPY, page 6)



APOLLO 8 ASTRONAUTS, from left, William A. Anders, James A. Lovell, jr. and Frank Borman, electrified the world when they carried out the highly successful lunar orbit mission.

## Three Divisions Recognized For Program Contributions

The 1,000th T-38 Talon supersonic trainer was delivered to the U.S. Air Force at a special ceremony at Palmdale on January 7.

The milestone Talon was officially turned over to Major General D. E. Riley, commander, Air Force Contract Management Division, by Richard R. Nolan, senior vice president, Manufacturing and Administration. General Riley certified the airplane and in turn presented it to Lt. General Sam Maddux, jr., commander, USAF Air Training Command.

General Riley commended Northrop's workmanship and said that "the long production run of the T-38 is an undeniable tribute to its excellence of design and efficiency of its production."

In accepting the milestone aircraft for the Training Command, General Maddux called production of the T-38 "a great achievement by an American industry-military team." He said that the

Northrop trainer has established a splendid record in the Training Command over the past seven years where it has flown nearly two million hours in training more than 11,000 student pilots.

While the primary responsibility of the Norair Division, both Northrop's Nortronics department at Anaheim and the Ventura Division share in the building of the supersonic trainer.

In delivering the 1,000th Talon to the Air Force, Mr. Nolan called the event "a milestone of major importance in Northrop history."

"In designing and developing the T-38, Northrop and the Air Force had a common purpose—to build a trainer that would enable student pilots to acquire the special skills needed to meet the challenges of the new high performance jet aircraft that were coming into the Air Force inventory," Mr. Nolan said.

He pointed out that despite considerable escalation of labor and material costs, Northrop has succeeded in reducing the price to the Air Force by some 60 per cent.

"I know that this reflects the conscientious attention to cost that characterizes the United States Air Force," he added. "For (See T-38, page 6)

## Management Club Picks Fritzel In Close Race

In one of the closest and most colorful presidential elections in recent memory at Northrop Ventura, Hank Fritzel has been chosen to lead the Northrop Ventura Management Club for the current year, according to Jack Vickers, election committee chairman.

Other officers elected were Ed Frangos, first vice president; John Wells, second vice president; Marilyn Wilson, secretary; and Dick Tupper, treasurer.

New management club directors for 1969 and their departments are Lee Bitney, Contract Management; Hap Haszard, Engineering; Ron Lancaster, Business Management; and John Simpson, Quality Assurance.



## NORTHROP NEWSMAKERS

**Tak Yamashita**, director of Programming, NDP, will be a discussion leader at the American Management Association's Administrative Services Division Workshop Seminar, "Advanced Management of Computer Programming," which meets February 12-14 at the Ambassador Hotel, Los Angeles.

**H. Jack Behrens**, Norair, has authored a chapter for a text on Cost Engineering scheduled for publication by McGraw-Hill.

**Floyd Parker**, Norair, has been appointed assistant district commissioner, Boy Scouts of America, Crescent Bay Area Council. In this executive level adult volunteer leadership position, Mr. Parker will coordinate the administration, operations, and training programs for 19 Cub Scout packs that serve 900 boys in the Culver City-Palms district. Mr. Parker also recently received a Distinguished Adult Leadership Award for outstanding service to Scouting in 1967-68.

**Fred K. Oshiro**, Norair, has presented a paper on "Calculation of Radar Cross Section" before the Anti-Ballistic Re-Entry System Meeting held at San Bernardino.

**Joe Der, jr.**, senior technical specialist, Aerodynamics and Propulsion, Norair, will present "A Study of General Three-Dimen-

sional Boundary Layer Problems by an Exact Numerical Method" to the AIAA 7th Aerospace Sciences Meeting in New York on January 20-22.

**Thomas E. Flannigan**, Ventura, has graduated from the 54th session of the Advanced Management Program of the Harvard University Graduate School of Business Administration.

The graduating class was composed of 160 men, including executives from 140 companies in the United States and abroad, and 20 military officers and men from other government agencies.

**William M. Waldon**, Corporate office, will be a discussion leader for the American Management Association's workshop seminar on "Modernizing the Group Insurance Plan." The seminar will be held at AMA headquarters in New York City on February 5-7.

**R. E. Herfert**, Norair, has made an oral presentation on "Scanning Electron Fractography" before a local meeting of the Electron Microscope Society of America.

**Stanley R. Murnane**, Norair, presented a technical briefing on Norair design of 747 fuselage structure to 25 members of the senior class, Aeronautical Department University of Minnesota, on December 2.

## 15th Annual Tournament Attracts 183 Bowlers

The Northrop 15th Annual Christmas Bowling Tournament drew 183 entrants who won 34 trophies and \$183 in prize monies.

The tournament, held at the Tropicana Lanes, Inglewood, on December 28 and 29, featured mixed doubles, men's and women's doubles, and men's and women's singles. Commissioners were Elva Heald and Frank Howard, Norair, and Dorothy Baldwin, Nortronics.

Events, winners and scores were:

**Men's Singles A** (14 entries): Ben Brittingham, Norair, 640; Vito De Paul, Nortronics, 599, and Jack Woods, Norair, 577.

**Men's Singles B** (27 entries): Rich Houser, 641; Vita Ripa, 618; Tony Collins, 608; and Dick Jeffries, 601. All were from Norair.

**Women's Singles A** (14 entries): Elsie Surtees, Norair-Family, 601; Dona Smith, Nortronics-Family, 598; Marge Hinz, Norair-Family, 596.

**Women's Singles B** (6 entries): Iris Collins, Norair-Family, and Elva Heald, Norair, tied with 557.

**Men's Doubles A** (20 entries): Sam Greco and Vita Ripa, Norair, 1,195; Jerry Alexander, Norair, and Art Muensterman, League, 1,170; and Bill Myerson, Norair, 1,135.

**Men's Doubles B** (14 entries): Vito De Paul and James Melatti, Nortronics, 1,231; Roger Hinz, Norair, and Ron Hinz, Norair-Family, 1,210.

**Women's Doubles Open** (26 entries): Corinne Davis, Norair, Mary Sherrick, Norair-Family, 1,156; Laura Kotal, League, Elsie Surtees, Norair-Family, 1,141; Connie Hinz and Marge Hinz,

Norair-Family, 1,124.

**Mixed Doubles A** (44 entries): Flo Grant, Ron Beye, Nortronics, 1,185; Dorothy Baldwin, Nortronics, Frank Howard, Norair, 1,165; Vito De Paul, Nortronics, Dona Smith, Nortronics-Family, 1,155; Janet Masterson, John Masterson, Norair-Family, 1,152.

**Mixed Doubles B** (18 entries): Barbara Day, Norair-Family, Jim Day, Norair, 1,206; Elva Heald and Frank Howard, Norair, 1,176.

In addition 17 trophies were given for special awards. They were: **High Scratch Series:** Men A, Vito De Paul, Nortronics, 610; Men B, Ben Tabon, Norair-Family, 594; Women A, Corinne Davis (210 game), Norair, 551; Women B, Dorothy Baldwin (209 game), Nortronics, 468.

**High Handicap Series:** Men A, Frank Howard, Norair, 632; Men B, Drex Carlson, Nortronics, 620; Women A, Laura Kotal, League, 624; Women B, Iris Collins, Norair-Family, 605.

**High Scratch Game:** Men A, Jerry Alexander, Norair, 234; Men B, Art Muensterman, League, 235; Women A, Corinne Davis, Norair, 205; Women B, Dorothy Baldwin, Norair, 179.

**High Handicap Game:** Men A, Vito De Paul, Nortronics, 233; Men B, John Masterson, Norair-Family, 253; Women A, Marge Hinz, Norair-Family, and Bettie Rupp, Norair, tied with 217; Women B, Connie Hinz, Norair-Family, 213.

Champion of Sandbaggers (most pins over entering average) went to James Melatti, Men, Nortronics plus 141 pins; and Women, Iris Collins, Norair-Family, plus 119 pins.

## Boeing Seeks OK for SST Prototypes

The Boeing Company is ready to proceed immediately to construct two U.S. Supersonic Transport prototypes pending approval of the company's new SST design. T. A. Wilson, Boeing president announced.

Government and airline officials have begun final evaluation of the new Boeing design following successful completion of preparatory work by the company. A final summary document on the design was to be submitted to the FAA this month.

Preliminary Boeing recommendations call for Norair to build a forward section of the body.

"We are confident," Mr. Wilson said, "that the design will provide a sound foundation for an economically successful commercial SST."

U.S. SST prototypes will be 280-feet long, 50-feet tall at the tail and have a 141-foot 8-inch wingspan with the leading edge of the wing swept back 50 degrees. The titanium aircraft will weigh 635,000 pounds fully loaded. It will cruise at altitudes above 60,000 feet at speeds of about 1,800 miles per hour.

The airplanes will operate from existing international airports at takeoff and landing speeds similar to those of existing subsonic jetliners. They operate efficiently at subsonic speed. This will enable them to take off at inland airports, fly to the coast subsonically, then accelerate to supersonic speeds for transocean operation.

A production decision has not been made, Mr. Wilson said, but U.S. SST's could enter airline service as early as 1976. To date, 26 of the world's airlines have reserved delivery positions for 122 U.S. SST's.

**IS IT NEWS?  
CALL EXT. 4273  
HAWTHORNE**



**SPEEDY DIAMOND**—Northrop F-5 tactical fighters flown by pilots of the Republic of Korea Air Force aerobatic team go through an intricate maneuver as part of their crowd-pleasing routine. They were participating in Korea's Armed Forces Day before a crowd of about 500,000 near Seoul. Pacific Stars and Stripes photo.



**THERE ARE DATES** and dates, but here are the best ones of all, according to Nancy Clary, clerk in Finance at Nortronics Palos Verdes. They are February 11 through 13 for those are the dates for WINCON '69, the 1969 Winter Convention on Aerospace and Electronics Systems. WINCON is the West Coast's largest and most important gathering of electronics engineers.

## Blue Ribbon Group Heads 1969 WINCON Meeting

Two university presidents, a congressman, the FAA administrator, leading scientists and top military commanders will head technical sessions at the 1969 National Winter Convention on Aerospace and Electronics Systems (WINCON).

The blue ribbon forum, to be held February 11 to 13 at the Biltmore Hotel, Los Angeles, is sponsored by the Aerospace and Electronics Systems Group, and the Los Angeles Council of the Institute of Electrical and Electronics Engineers.

Eight unclassified sessions plus the traditional von Neumann lecture series which features "Our Changing World" have been scheduled for the conference, according to Frederick Stevens, Nortronics general manager, general chairman of WINCON '69.

The SAMSO Winter Convention, a series of classified presentations, will be held concurrently at the Navy and Marine Corps Training Center, Chavez Ravine.

WINCON technical program chairman Dr. G. Dale Bagley of TRW, said, the unclassified sessions will follow the conference theme "Electronics—Key to the 70's." They will cover vital areas of communication, air traffic con-

trol, medical electronics, future satellites, and vehicle traffic control.

## Still's Book Explores Next Thirty Years

Henry Still, a member of the Corporate Public Relations staff, has authored a new book titled "Man: The Next Thirty Years."

Published this month by Hawthorn Books, Inc. of New York, the new book predicts future developments in many areas ranging from food to the exploration of outer space.

Sections of the book dealing with communications and transportation take note of Northrop Corporation's emphasis upon worldwide communications and the company's involvement in the Boeing 747 and other future air transport programs.

Mr. Still, who has been with Northrop for nearly six years, has written three other books. They are "To Ride the Wind" (a biography of aviation pioneer Glenn L. Martin); "Will the Human Race Survive," and "The Dirty Animal".

## Falcons Trim Munsters to Win Football Crown

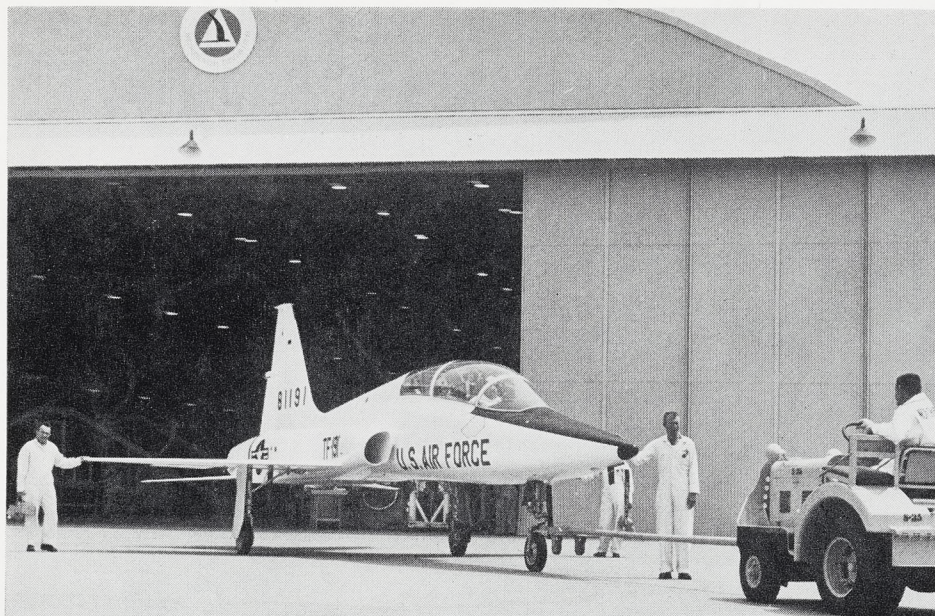
The Norair Falcons have been crowned plant champions of the Norair Nortronics flag football program following a playoff victory over the Munsters, also of Norair.

The Falcons won their Thursday league. The Munsters, plant champions for the past five seasons as well as Los Angeles County champs for five years, won the Saturday league.

In the playoff victory the Falcons scored a 14-8 victory.

Making up the Falcon team, under Coach Mack McConnell, are Martin Turner, Cris Eloffson, Carl Hunter, Rocky Huish, Ron Fisher, Blanchard Davis, Cleve Simington, Bob Fox, Gary Curington, Guy Little, Bud Ebersold, Mel Overton, Loren Guinn, Gary Lottman and J. Lackey.





**AT THE BEGINNING**—Prototype of the first Northrop T-38 rolls out of final assembly, left above, on August 15, 1958. First flight followed on April 19, 1959 at Edwards AFB. Design concepts of the T-38, highlighted in this overhead shot

of an early model, right above, were so sound that no basic configuration changes were required after completion of preliminary design.

## Talon Flies Two Million Hours, Trains 11,000 Pilots in 7 Years

Delivery of the 1,000th T-38 Talon supersonic trainer to the Air Force last week is the latest in the milestones that have marked the career of a remarkable airplane that has flown nearly two million hours and trained nearly 11,000 pilots.

The Talon was officially born 14 years ago when Northrop performed design studies in the spring of 1955 for a lightweight supersonic airplane that would combine simplicity, utility, maintainability and safety.

Then in November 1955, specific design studies for an Air Force supersonic jet trainer were initiated. These studies resulted in June 1956 in a contract to build the T-38, a Northrop-designed basic trainer.

The first of two prototype aircraft was rolled out on August 15, 1958. The design concept was so sound that no basic configuration changes were required after completion of preliminary design. All airframe subsystems have exceeded the reliability standards originally set by the Air Force.

Northrop test pilot Lew Nelson made the first T-38 flight at Edwards AFB on April 19, 1959. Tests proceeded so well that the 100th

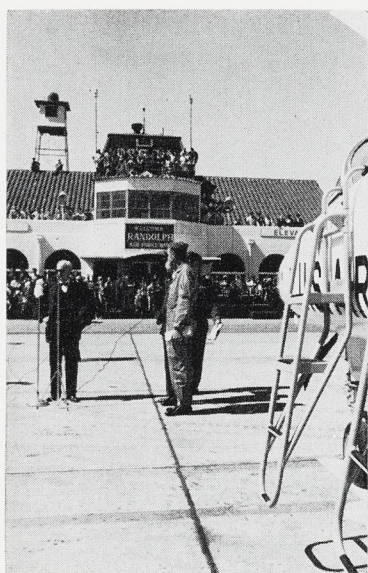
test flight milestone was reached in less than six months.

Other milestones quickly followed. In 1961 famed aviatrix Jacqueline Cochran established eight world records in the T-38. Then in February 1962, Air Force Major Walter Daniel set four world time-to-climb records.

When Category III tests were concluded in November 1962, the Talon had logged 8,588 hours and the T-38 became the first supersonic jet in Air Force history to complete all flight tests without a major accident. This record is still unequalled.

The T-38 was introduced into the Air Force inventory at Randolph AFB in March 1961. As of December 1968, a total of 877 were in operational use at Air Force training bases. Strategic Air Command, the Aerospace Research Pilot School, NASA and others also use T-38's for specialized missions.

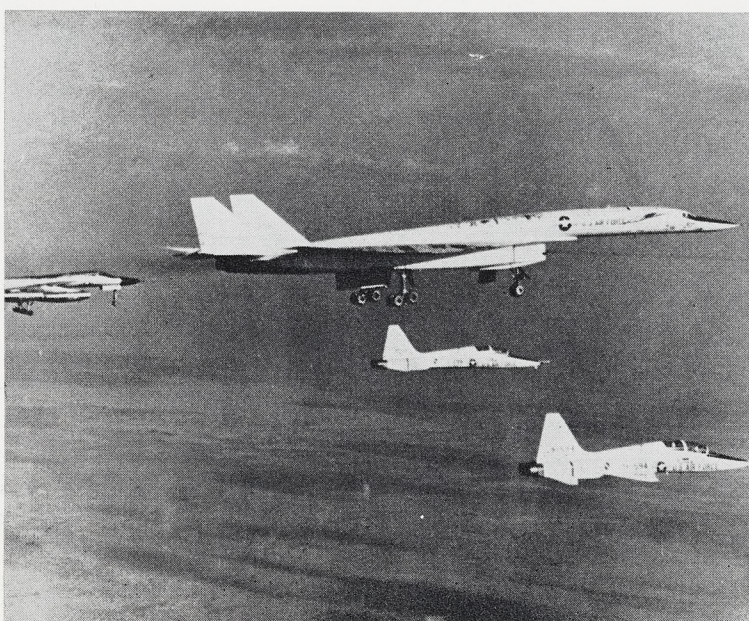
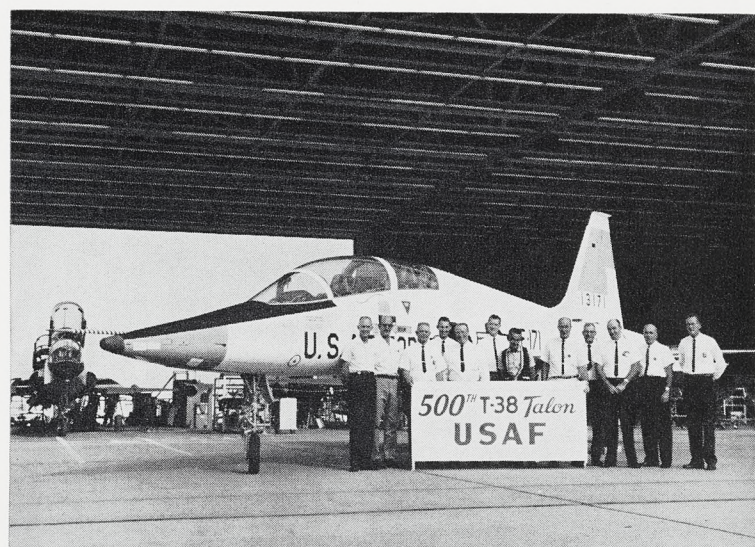
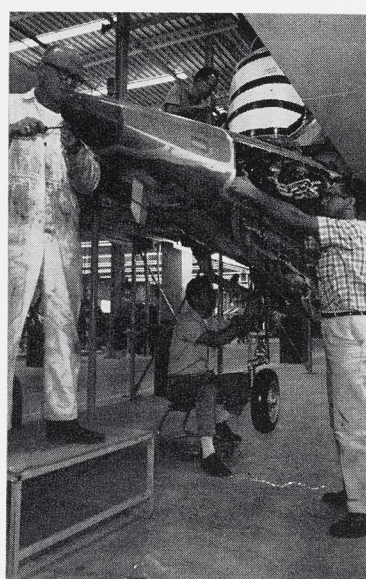
Delivery of the 1,000th T-38 in January 1969 climaxes a decade of production, but the T-38 story is still being written. With production programmed through 1970, the T-38 will continue to serve the Air Force with safety and economy in its undergraduate pilot training role.



**CEREMONIES** at Randolph AFB, above, highlighted delivery of first operational T-38 to the Air Force in March 1961. Major General Benjamin Foulis, USA-retired, who learned to fly with the Wright Brothers, speaks to welcoming crowd.



**LEW NELSON**, Norair director of Flight Operations, above, climbs into the cockpit of the first T-38 for its initial flight test. Mr. Nelson subsequently conducted the first flight test of the 500th and the 1,000th T-38's.



**SKILLED CRAFTSMEN** like those above from Norair, Nortronics and Ventura Divisions share much of the T-38's success with the capable designers who created it. Formations of T-38, upper left, on routine training missions are familiar sight across the United States. The T-38 also serves, lower left, as a "pace plane" for the XB-70. Symbolic T-38 milestones include, right above, rollout of the 500th T-38 at Palmdale and, lower right, the delivery flight of the 1,000th aircraft shown breaking ground enroute to Randolph AFB following ceremonies last week.





## WHAT DO YOU THINK?

## What Was The Best Thing That Happened To You During 1968



Mrs. Miller

**Peggy Miller, Correspondence Control coordinator, Ventura:**

The visit to Canada over the Labor Day holiday was the highlight of my year. I flew to Kitchener, Ontario, to attend the wedding of my niece. While there, I saw relatives that I hadn't seen since my own wedding 19 years before.

**Mary Busch, Planning clerk, Norair:**

One of the best things that happened to me in 1968 was last January when I hired in at Norair. I'm very thankful for all those that make my working here so enjoyable. When you have a job you're happy with and pleasant working associates it makes many good things happen throughout the year.



Mrs. Busch

**Nick Ranill, Materials Estimating, Nortronics Anaheim:**



Mr. Ranill

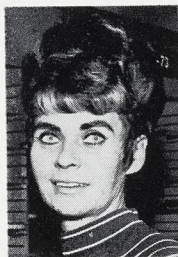
It was the way Nortronics people responded to my call to aid Don Buchanan, a high school senior paralyzed in a surfing accident two summers ago. Although Don can only move his head and arms slightly, he completed high school. Nortronics people are donating money to buy him a hydraulic lift like the one used by Raymond Burr in the TV program "Ironside," so he can get in and out of his family's van.

**Lowell Lyle, Procurement, Ventura:**

When my son returned from Vietnam last February, that was the best thing that could have happened to me and my wife in 1968. Since he is our only son, there was nothing more important to us than having him return safely. So, the best of 1968 came quite early at our house.



Mr. Lyle



Mrs. Dennis

**Mary Dennis, mail clerk, Mariposa:**

The best thing that happened to me last year was the relaxing five days I spent with my husband, Rudy, in Palm Springs on the Memorial Day weekend. It was a simple holiday. Just sun and fun, but we both loved it more than anything else that happened all year.

**Patsy Prather, Assembly C-5, Nortronics Hawthorne.**

The most wonderful thing I can think of is having all my family with me at Thanksgiving and again at Christmas. We had not had a reunion like this since 1963. There were 16 of us altogether, including my four sisters.



Mrs. Prather

## Credit Union Dividend Listed at 6.25 Percent

A dividend of 6¼ per cent was declared by the board of directors, Northrop Credit Union, at its December 18 meeting, according to Mary Delaney, secretary-treasurer.

The dividends are based upon the Credit Union's 1968 earnings, and were posted to shareholders' accounts January 1, 1969. They will thus become part of the shareholders' 1969 income.

The Credit Union's 1967 earnings paid as dividends in 1968 should be included in 1968 tax returns. To assist members in filing tax returns, the end-of-the-year statements to be mailed in mid-January have yearly figures for computing taxes.

"Dividends paid in 1968 (based on 1967 earnings) are recorded in the lower left of the statements," Mrs. Delaney said. "In

the lower right of the statement we have recorded the total interest paid by the member on any 1968 loans."

The Credit Union's annual shareholders' meeting is scheduled for 5 p.m., February 4, at the Norair cafeteria.

## CHALK TO LECTURE ON MANAGEMENT

David Chalk, administrator, Management Development, has been appointed lecturer in Aerospace Management, Institute of Management and Safety, Graduate School, University of Southern California.

He will teach a course, ASM 544, Advanced Principles of Aerospace Management, beginning with the 1969 spring semester.



COMMANDER ABEL

## Robert W. Abel Commands USN Air Reserve Unit

During the week Robert W. Abel supervises Contract Estimating at Nortronics Palos Verdes, but on weekends he turns flying sailor to command a U.S. Navy anti-submarine patrol squadron at Los Alamitos Naval Air Station.

A Navy pilot in World War II, Commander Abel left the military service in 1950, but retained his commission in the Naval Air Reserves. He flew fighters and attack planes for his reserve training until three years ago when he switched to anti-submarine patrol duty.

He now commands a squadron of 92 enlisted men and 22 officers who, like himself, spend their weekends maintaining flying proficiency so they will be able to serve with the regular U.S. Navy in a national mobilization.

As part of his duties, Commander Abel flies a Grumman S2E radar tracker plane. The plane carries a crew of four. The commander flies regular patrol missions for the Navy along the California coast on his weekend tours, searching for unauthorized submarine penetration of American waters.

Commander Abel said he still has a few openings for reservists in his squadron. "Any former Navy men at Northrop who might be interested in joining up with us will be welcome," he said.

## Northrop Page Finishes Work On EUCOM Center

A Northrop subsidiary, Page Communications Engineers, Inc., has completed engineering, fabrication and installation of six communications and electronics subsystems for the European Command Center at Stuttgart, Germany.

This center has under one roof the capabilities needed to monitor and control U.S. Forces in Europe.

Northrop Page's work included electronics equipment for teletype and data, record and playback, secure voice, graphics and briefing, sound amplification and distribution and display.

Work began in 1967. Parts of the center became operational in July 1968 and the total facility was activated in late 1968.

## BENTLEY ELECTED

Ed Bentley, president, will head Northrop Coin Club activities in the Hawthorne area for the coming year following annual elections held recently.

Other officers are: Don Maroušek, vice president; Lou Doxtator, secretary; Dave Trimble, treasurer; and Bob Carstens, sergeant-at-arms.

## Norair Engineer Ed Long Doubles as TV 'Bad Guy'

To the rest of the *Gunsmoke* TV audience he was a mean-looking hombre with a four-day beard out to do in Matt Dillon, but to Norcrafters viewing the show he was Ed Long, a Proposal Engineering specialist in Norair's Research and Subcontract Proposals branch.

Ed is no novice to the TV scene. In addition to *Gunsmoke*, he has appeared in *Rawhide*, *Bonanza*, *Daniel Boone*, and the *Guns of Will Sonnett*.

While casting directors like to give him "bad guy" roles, he is equally smooth in action series. He has taped shows for *Mannix*, *The Fugitive*, *Judd for the Defense*, and *The Lieutenant*. He also has credits in imaginative series like *Batman*, *The Invaders* and *Star Trek*.

In addition to his TV work, he has taught, directed and acted in a rich repertoire of classical and modern drama. He recently had a leading role in the Theater 40 Classical Repertoire Group's production of Ben Jonson's *Volpone*, and Casca in last season's *Julius Caesar*.

He can also lay claim to five "Best Actor" awards for work with Little Theater and collegiate sets. These were such roles as the king in "The King and I," Kowalski in "A Street Car Named

Desire," Tajamaru in "Rashomon," and Iago in "Othello."

When Ed isn't acting, he lends his talented hand to directing. He is a familiar face in many of the leading playhouses, workshops, and community theatres around the Los Angeles area.

Mr. Long received his dramatic training at UCLA where he received a master's degree in communication arts. He also has taught acting, writing and speech courses at both UCLA and Los Angeles City College.

A Norcrafters for 11 years, he has addressed the Northrop Toastmasters Club on such subjects as acting, public speaking, and speech dynamics. He also has conducted seminars on effective presentations for engineering and scientific personnel here.



ED LONG

## Much-Traveled Williams Trio 'Settles' at Norair

A new Norair employee is the third member of her family to join Northrop. She has done so after traveling in 49 states and nine foreign countries and studying in 13 schools from Africa to El Camino in 14 years.

She's Deemma Sue Williams, a Quality Analysis clerk at the Mariposa facility, daughter of Bill Williams, Norair Manufacturing Control coordinator, and sister of Joe Williams, Norair aircraft assemblyman.

Deemma has taken the traveling in stride and has "enjoyed every move" made by her family during the Air Force career of her father.

Deemma and brother Joe—who's just back from service in Vietnam—were both born in Hawaii but consider Texas their home since they lived a full four years at San Antonio. That's as long as Deemma ever spent in

any one place.

Some of her fondest memories are of Clark AFB in the Philippines where she learned hula dancing. There she performed in hospitals and Air Force variety shows. Also, since she was three, Deemma has participated in water ballet and has done solo work in synchronized swimming.

The travel which was most like a vacation began when Deemma was seven years old.

Deemma received her associate of arts degree from El Camino College in Torrance last August and plans to be married next summer.

Then, it would seem, she could finally settle down to live in one place without ever traveling again if she wished.

But, alas, Deemma's fiancé is a young man who plans a career in—you guessed it—the U.S. Air Force.



DEEMMA SUE, JOE AND BILL WILLIAMS



# Classified

Classified ad service is provided free of charge to all Northrop personnel. Ads for agencies, commercial enterprises and private businesses are not accepted. The Northrop News reserves the right to edit or omit ads. Obtain ad form C67 from organization clerk and mail ad to Northrop News, 170, zone 62. Ads are limited to one item and one ad per person each issue. Deadline is noon Wednesday, one week before publication.

## Automobiles For Sale

Arbath Zagato, 1961, 750 cc, \$750. 213-677-1681. A

Pickup, 1958 Ford, 1/2 ton, new eng. & trans., \$650. 213-542-2098. A

Rambler, 1959, \$175. 213-377-8609. A

Ford, 1956, 2-dr., \$150. 213-542-2537. A

Volkswagen, 1968, \$1,850. 213-671-0835. A

Truck, 1960 Chevrolet, 6 cyl., a/c, radio, 2 tanks, long bed, \$700. 213-325-1571. A

Corvette, Stingray fastback, 327/365 h.p., air, posi-trac., AM-FM radio, \$2,995. 213-831-4586. A

Ford, 1969 Econoline van, 302 cu. in., V-8, \$2,700. 213-372-2772. A

Ford, 1963 XL-500, 390 V-8, Cruise-O-Matic, p/s, p/b, AM-FM radio, \$1,050. 213-677-6375. A

Chevrolet, 1961 Biscayne, 4-dr., std. shift, \$400. 213-545-4741. A

Camaro, 1967 S.S. 396, r/h, p/s, p/b, \$2,100. 213-545-1843. A

Station Wagon, 1957 Chevrolet, many extras, 283 eng., \$795. 714-645-2799. A

Ford, 1959 Galaxie, 2-dr., h/top, r/h, p/b, p/s, a/c, \$350. 213-430-5027. A

Cadillac, 1955 60S, full power, \$200. 213-387-9767. A

Chevrolet, 1962 Impala, p/s, p/b, r/h, \$350. 213-770-1023. A

Corvette, 327/350 h.p., 4-spd., stereo tape, \$1,500. 213-532-9179. A

Chevrolet, 1965 Impala S.S., V-8, auto. trans., p/s, r/h, \$1,495. 714-826-2209. A

Grand Prix, 1964, 4-spd. trans., AM-FM radio, 421 h.p., tri-power, posi. trac., p/b, \$1,000. 213-294-6806. A

Porsche, 1961 S-90 convt., AM-FM, \$2,450. 213-782-6869. A

Porsche, 1959, luggage rack, radio, \$1,795. 213-324-9373. A

Mercury, 1964, Park Lane, 2-dr., h/top, 390 V-8, fastback, full power, a/c, \$1,000. 213-672-2407. A

Falcon, 1962 Ranchero, 6-cyl., std. trans., r/h, \$700. 714-847-9704. A

Ford, 1967 Galaxie 2-dr. h/top, p/s, a/c, \$2,300. 213-834-0309. A

Volkswagen, 1966, VW air, \$1,450. 213-378-7479. A

Cadillac, 1961 De Ville, 4-dr., fully equipped, \$850. 213-377-2158. A

Station Wagon, 1959 Chevrolet, a/c, auto., r/h, \$295. 213-672-7683. A

Truck, 1966 Ford, 3/4-ton, custom cab, f/glass camper shell, \$1,500. 714-527-4554. A

MGA, 1957, \$370. 213-545-3495. A

T-Bird, 1955, \$1,650. 213-379-1031. A

Volkswagen, 1957, \$300. 213-547-2716. A

Ford, 1959 Galaxie, new tires, \$350. 213-363-3843. A

Chevrolet, 1967, custom El Camino, fac. air, p/s, \$2,450. 213-329-6622, 213-323-9398. A

Chevrolet, 1957, 409 cu. in., many extras, \$500. 213-379-3138. A

Pontiac, 1965 GT0, p/s, p/b, fact. air, auto. trans., \$1,500. 213-644-7508. A

Ford, 1954, V-8, auto. trans., r/h, \$150. 213-457-7086 or Box 2601. A

Pontiac, 1962, 4-spd., 2 4 bbl. Holly carbs, \$900. Box 2602. A

Pickup Truck, Chev., w/Open Road camper, 8 ply tires, fully equipped, \$1,900. 213-376-7569. A

Volkswagen, 1967 1600 Fastback, sliding roof, AM-FM radio, \$1,600. 213-386-0455. A

Buick, 1966 Riviera, a/c, full power, \$2,900. 213-675-5329. A

Volkswagen, 1967, \$1,500. 213-927-8972. A

Rambler, 1961 American, stick shift, r/h, \$200. 213-375-6773. A

Chevrolet, 1962 Impala S.S. h/top, rebilt. 327 eng., \$650. 213-326-7561. A

Volkswagen, 1962, has new fact. rebilt. eng., \$375. 213-347-6964. A

Dune Buggy, V.W., many extras, \$1,250. 213-371-1175. A

Volkswagen, 1967, \$1,500. 213-436-5965. A

Shelby, 1967 GT500, auto., air, stereo, \$3,495. 213-374-5935. A

Pickup Truck, 1/2-ton, 1964 Ford, V-8, r/h, \$1,100. 213-377-1404. A

Chevrolet, 1964 Impala 2-dr. sedan, r/h, p/s, \$1,075. 213-378-4155. A

Renault, Caravelle convt., less than 1 yr. old, radio, \$200 & take over pymts., \$1,795. 213-428-1243. A

Chrysler, 1964 Newport, 2-dr., p/s, p/b, new tires, \$1,150. 213-377-1094. A

Motor Home, 1967 17' Winnebago, w/bath, gas refrig., p/b, sleeps 6, other extras, \$5,495. 213-787-2596. A

Buick, 1963 Riviera, full power, a/c, \$1,150. 213-370-9170. A

## Automobiles For Sale

Rambler, 1959, o/drive, r/h, \$100. 213-321-1655. A

Falcon, 1962 4-dr., r/h, auto. trans., \$275. 213-331-6064. A

Studebaker, 1964 Avanti, R-3 eng., s/charged, auto. trans., \$2,500. 213-867-1476. A

## Household Items For Sale

Stove, Gaffers & Sattler, 4-burner w/griddle, \$15. 213-327-5376. B

Dryer, gas, Sears, 2 yrs. old, \$85. 213-833-0742. B

Spring Rocker, grey tweed, \$15. 213-323-8089. B

Range, O'Keefe & Merritt, bltin type, copper-tone, \$50. 213-673-4552. B

Hide-A-Bed, Simmons, dble. size, \$25. 213-324-2992. C

Dishwasher, G.E. portable, \$50. 213-424-9187. B

Living Room Set, 3-piece, black nylon, \$50. 213-534-3021. B

Dryer, elec., 220 volts, 18 mos. old, \$65. 714-962-2121. B

Refrigerator, 21 cu. ft. Frigidaire, copper-tone, \$250. 213-534-5350. B

Crib, w/white canopy & mattress, \$30. 213-327-3795. B

Desk, walnut, 9-draws., \$25. 213-675-3098. B

Carpet, 6x9 wool, w/pad, sunburst pattern, w/orange, brown, beige rays, \$100. 213-676-3050. B

Rocking Chairs, 2 gold, \$10 ea. 213-328-3306. B

Range, Kenmore, gas, \$35. 213-393-3622. B

Bed, dble., mattress, box spring & headboard, \$50. 213-830-5284. B

Rug, 12'x15' braided brown & tan, oval, Colonial style, \$20. 213-372-4470. B

Couch, Danish modern, 8' teak wood, green tweed, \$25. 714-544-3811. B

End Table, solid maple, \$20. 714-879-7625. B

Crib, \$15. 213-326-0114. B

Dryer, Whirlpool, gas, \$100. 213-637-5408. B

High Chair, blonde, wooden, \$5. 213-644-7502. B

Mangle, Kenmore, elec., knee action, 2-spd., white, \$35. 213-323-5740. B

Bed, twin, maple, \$20. 213-372-3827. B

Dining Room Set, Virtue Bros., w/6 chairs, \$25. 213-675-1884. B

## Miscellaneous For Sale

TV, 23" b&w Zenith, walnut console, \$30. 213-378-0477. C

Tuner, GW FM, plays on 4 or 8 track auto tape player, \$25. 213-377-3532. C

Pups, poodle, small min. black female, AKC, \$125. 213-431-4066. C

Motorcycle, 1965 Honda 160, \$295. 213-325-1485. C

Tape Recorder, RCA portable, 2-spd., remote control, mike, 10 reels tape, \$75. 213-783-8822. C

Tires, w/w, 4, 820 x 15, Vogue & Goodyear Double Eagle, \$10. 213-675-3995. C

Slide Projector, Golde 300 W., w/Airequit changer, case & 40x40 screen, \$25. 213-670-2564. C

Mobile Home, 1954 Pan American, 8'x36', cpts., furn., alum. closed-in patio, terms, \$3,200. 213-644-1805. C

Skis, Hart Holiday's, Geze step-in bindings, \$120. 213-376-5192. C

Stereo-TV combination, Philco, 23", UHF-VHF, dark mahogany, 5 1/2' cabinet, \$195. 213-375-0915. C

Calculator, Victor auto., \$375. 213-677-4215. C

Theatre Organ, Wurlitzer Horseshoe, latest mod. 4520, full manuals & pedals, 8 spkrs., \$2,300. 714-847-2648. C

Wedding Dress, Cahill, ivory brocade, chapel train, long sleeve, empire styling w/veil, size 9-10, \$60. 213-679-4241. C

Negligee, size 9-10, & white satin slippers, size 6 1/2-7, white nylon, \$35. 714-774-4853. C

Snare Drum, Gretsch, 8 lugs, w/stand & case, \$40. 213-325-3452. C

Tires, 14" 1 Firestone Super Sport wide ovals, 2 D70, 2 E70, \$110. 213-635-3824. C

Reducing Table, Delux Stauffer, w/leg & arm stretch bar, \$50. 213-675-6020. C

Archery Set, Smithwick bow, Dural arrows, leather quiver, \$45. 213-376-5139. C

Utility Carrier, reinforced tubular steel full cab & bed length for Chev. pickup, \$50. 213-370-7092. C

Golf Clubs, 1, 3, 4 Mt. Woods, 2-9 irons, D3, med. shafts, \$110. 213-375-4340. C

Guitar, elec., \$35. 213-326-0340. C

Honda, 300 Super Hawk, \$300. 213-326-1178. C

Roller Skates, lady's white, size 6 or 6 1/2, \$6.50. 213-673-1133. C

Tire Chains, 7.00x16 & 7.50x16, \$9.50. 213-325-2512. C

Dirt Bike, 1963 Harley Sprint, \$275. 805-488-2763. C

Surfboard, 8'4" mini pintail, extra fin, \$65. 213-632-2642. C

Surfboard, Gordon & Smith mod. HYIII, 9'6" \$70. 213-375-6397. C

Engine, B&S, 2 1/2 h.p., 4-cycle, \$15. 213-375-8536. C

Sailboat, 28' wooden sloop, inboard eng., dacron sails, sleeps 4, \$4,500. 213-378-4352. C

Surfboard, Bing, 9'10", \$75. 213-541-1944. C

Ice Chest, large, \$15. 213-371-0323. C

Pony, miniature shetland stud, 10 hands high, \$75. 714-539-6203. C

Motorcycle, Norton, custom chopper, feather-bed frame, \$350. 213-645-7715. C

Engine, for 1962 Chevy II, 6 cyl. & trans., \$100. 213-379-6126. C

## Miscellaneous For Sale

Radio, Hallicrafters AM-FM, mod. FM 48, \$25. 213-328-5655. C

Dirt Bike, Honda 50, \$95. 213-675-3254. C

Sun Lamp, penetray portable, Mercury vapor, \$8. 213-328-6662. C

Motorcycle, 1963 Yamaha, 250 cc w/elec. starter, \$200. 213-831-6238. C

House, 3-bdrm., 2-car gar., 55x150' lot enc. by b/wall, 600 sq. ft. roofed patio, 5 min. to Research Park, \$28,000. 213-325-8267. C

Home, 3-bdrm., w/w cpts., dps., 2 baths, f/place, full dining rm., breakfast rm., Ingleswood, tree-covered 65x150 cor. lot, \$41,950. 213-678-5960. C

Motorcycle, 1965 Yamaha, 55 cc, \$140. 805-495-6083. C

Tent Trailer, Heilite, sleeps 4, expandable, \$395. 714-737-2311. C

Aquarium, 50-gal., Silent Giant pump, ground filter, 100-lb. sack of sand, 2 fish, \$75. 213-673-4598. C

Stereo Console, small Magnavox, \$75. 213-675-1953. C

Oven, child's, elec., \$3. 213-379-5690. C

Lot, 1/4 or 1/2 acre, at Lake Isabella, pvt. water supply, 2 miles from lake, \$4,950. 805-482-0122. C

Play Pen, folding, \$5. 213-376-4831. C

Motorcycle, Mojave, 250 cc, 20 h.p., \$375. 805-482-3893. C

Desk, Cole, beige tone, marproof top, metal, 6 draws., matching lamp, \$135. 213-373-2354. C

Lot, Colorado River, paved streets, water, elec., marina, \$2,495. 805-498-2529. C

TV, 12" General Electric, b&w, \$10. 213-373-3128. C

Piano, upright, \$195. 213-675-2824. C

Home, tri-level, 3-bdrm., 3 baths, fam. rm., f/place, cpts., dps., 2-car att. gar., b/wall, cov. patio, 1 yr. old, College Park, \$37,500. 213-431-6468. C

House, 3-bdrm., 2 baths, cpts., dps., bltins, patio, near Del Amo shopping center, \$27,500. 213-325-3724. C

Home, 3-bdrm., R-2 lot, bltins, basement, upstairs, ocean-view, assume first T.D. at \$115 mo. plus 2nd, \$31,000. 213-379-7342. C

House, 3-bdrm., 2 baths, cpts., dps., bltins, f.a. heat, o/size gar., 5 yrs. old, \$34,500. 213-322-5434. C

Ping Pong Tables, w/net, \$17. 213-324-4817. C

Formal, mint green, empire style, sleeveless, lace top, crepe bottom, size 7 petite, \$10. 213-755-7255. C

Surfboard, Bing Lotus, 8'6", \$90. 213-674-7952. C

Vibra Harp, Deagan elec., \$300. 213-591-5074. C

Scuba Gear, incl. tank, reg., suit & access., \$200. 213-429-2028. C

Bicycle, 23" Schwinn Varsity, \$45. 213-335-3229. C

House, 3-bdrm., 2 baths, pool, P.V. Pen., \$42,500. 213-377-6029. C

Surfboard, 9'4" Jacobs, 1 1/2" balsa stringer, \$50. 213-894-1381. C

Light Meter, Weston Master III w/invercone incident light attachment, carrying case, \$15. 213-378-3255. C

Radio, Craftsman, AM-FM w/AFC control, hi-fi amplifier & spkrs., Webcor record player, other extras, \$150. 213-675-2514. C

Trunk, white, \$5. 213-676-9858. C

Bow, 40-lb., 1 doz. aluminum arrows, \$40. 213-372-2313. C

Pups, AKC male beagle, 4 mos. old, shots, \$45. 805-498-8461. C

Utility Trailer, 4'x8', \$65. 213-925-7760. C

Auto Radio, 1968 Bowman, AM 5 pushbutton, \$30. 213-327-9338. C

Cemetery Lot, 4 in Eventide sec. of Green Hills Memorial Pk., incl. perpetual endowment care, \$1,560. 213-376-4677. C

Tool Box, Kennedy, \$15. 213-430-2619. C

Home, 5-bdrm., 3-car gar., central a/c, undg. util., 600 sq. ft. brick & redwd. patio, fences, dps., near Northrop Ventura, \$38,500. 213-889-8075. C

Shuffleboard Cues, 2 collapsible type, \$7.50. 213-377-3806. C

Record Player, maple, Hoffman stereo, 3 spkrs. & AM-FM radio, 2nd unit, 2 spkrs., \$150. 213-675-7381. C

Camping Trailer, 1957 Scotsman, 4 ply tires & spare wheel, sleeps 5, \$495. 213-676-5219. C

Snowmobile, 1967 Polaris Colt 140, 300 cc Hirth eng., trailer, \$750. 714-838-7161. C

Rifle, 22 cal., bolt action w/scope, \$35. 213-377-2711. C

Rifle, Sako Vixen mod., hvv. barrel .222 Rem. mag., \$135. 213-860-2305. C

Stereo System, incl. Harmon-Kardon TA-120, Fisher FM-90X, Dyna 60 w. amplifier, preamp & stereo adapter, other access., \$580 or sell sep. 213-326-8455. C

Drafting Machine, Bruning, \$90. 213-377-1990. C

Golf Clubs, Spaulding, 4 irons, 2 woods, putter, \$35. 213-672-2662. C

Stole, mink, cape-style, silver blue, \$250. 213-347-4599. C

Skis, 210cm, Head 360's, \$50. 213-545-2431. C

Radial Arm Saw, Craftsman, 10" & 7" blade, steel cabinet w/drawer, other extras, \$250. 213-328-4034. C

Organ, Thomas, H3 model, blonde, full size keyboard & pedal, other features, \$400. 213-328-9064. C

Golf Clubs, Palmer '68 alum., 1, 2, 3, 4 woods, 2-9, & P.W. & S.W. \$180. 213-377-4481. C

Apt, deluxe 4-unit, 1 block from Norair, 4 yrs. old, low dn., \$64,900. 213-675-5181. C

## Miscellaneous For Sale

Surfboard, 8'11" Velzy, \$30. 213-823-1788. C

Pool Table, 7'x3 1/2', \$50. 213-671-2928. C

House, 2 story, 4-bdrm., 2 baths, fam. rm., f/place, cpts., dps., covered patio, landscaped, No. Torrance location, elec. bltins, \$38,500. 213-329-0086. C

Lawnmower, 22" rotary w/3 h.p. eng., \$20. 213-823-2658. C

Pistol, 9mm Luger, 1940, w/42 toggle, extra clip, tool & holster, \$135. 213-675-8617. C

Coin Collection, foreign, some U.S., many old dates, incl. stamp collection, \$40. Box 2603. C

House, Lakewood, 2-bdrm., cpts., dps., dish-washer, sprinklers, \$21,700. 213-925-9776. C

Record Player component, AM/FM, stereo system, complete, \$175. 213-523-2495. C

Radio, for MG, \$10. 213-423-1363. C

Motorcycle, 1968 Yamaha, 100 cc twin jet, \$300. 213-379-1585. C

Tape Recorder, Sony mod. 100, 7" reels & tape, \$50. 213-375-5760. C

Dachshunds, small, male & female, black or brown, \$35 ea. 213-663-3558. C

## Wanted to Buy

Corvair, 1962-64, 2-dr. or 4-dr. in good condition. 213-645-3381. D

Slide Projector, Carousel type, good quality slide camera, Omega enlarger. 714-637-7667. D

Dodge, 1967 or '68 Coronet 400 or 500, 8-cyl., reasonable price, car must be in good condition. 213-297-3504. D

Engine, 1965 Ford or later model in good condition, reasonable. 213-679-7840. D

## Free (To Be Given Away)

Dogs, 2 beagle. 213-397-7266. F

Pups, 5, part German shepherd & boxer. 213-326-4459, 213-326-3083. F

## Rentals Offered

Apt, 2-bdrm., 1 1/2 baths, all elec., walk to Norair, \$180 mo. 213-644-1763. G

House, 3-bdrm. & den, enc. patio, 1 1/4 bath, water pd., unfurn., \$270 mo. 213-328-1998. G

Cabin, Green Valley, \$25 w/end; \$45 wk. 213-324-0649. G

Cabins, Lake Gregory & Crestline, sleep 6, \$25 w/ends; \$60 wk. 213-391-2040. G

Apt, 2-bdrm., unfurn., 2 baths, pvt. balcony, subterranean gar., laundry facilities, N. Inglewood, \$165 mo. 213-541-1226. G

Cabin, Green Valley Lake, \$35 w/end; \$55 wk. 213-320-2002. G

Apt, 2-bdrm., pvt. patio, dps., cpts., stove, close to Northrop, unfurn., \$150. 213-678-1649. G

Apt, Redondo Bch., 3 blocks from ocean, cpts., dps., bltins, gar. w/storage cabinets, 3-bdrm., 2 baths, \$180. 213-372-8835. G

Apt, 1-bdrm., subterranean parking, pool, bltins, dps., cpts., pvt. deck, Lawndale, \$180 mo. 213-644-4235, 213-670-6084. G

## Rentals Wanted

House, 2-bdrm. & gar. for mature working couple, near Northrop. 213-676-8817. H

## Child Care

Child Care offered, licensed, infants preferred, fenced yd., weekly. 213-327-2621. I

Child Care wanted for 7 yr. old girl during the week in the Hawthorne area, prefer your home. 213-696-9438. I

## Lost

Rings, diamond engagement & wedding, generous reward, between Dec. 11 to 13, 213-322-5672. J

## Rides and Riders

7 a.m. — 3:42 p.m.

Wendy Dr., Borchard Dr., or Moorpark & Thousand Oaks, Newbury Park. D. R. Licata, Mariposa ext. 4086, 805-498-1235.

Pico Blvd. & Venice Blvd., Los Angeles. Cleo Morrison, Norair ext. 2170, 213-389-7858.

Avalon & 186th St., Gardena. Genaru Chapa, Norair ext. 2568, 213-323-9447.

7:30 a.m. — 4:15 p.m.

Santa Ana-Tustin Vicinity. R. B. Speed, Norair ext. 1555, 714-544-2261.

8 a.m. — 4:45 p.m.

Ventura Beach Area to Northrop Ventura. Bill Lucking, Ventura ext. 1346, 805-648-2407.

## Rides Offered

7:30 a.m. — 4:15 p.m.

Santa Ana-Tustin Vicinity. R. B. Speed, Norair ext. 1555, 714-544-2261.

## Personals

My heartfelt thanks to my fellow workers & blood donors for the kindness & sympathy extended to me during the illness & passing of my mother. WM. E. BASSETTE & FAMILY, MRS. JAMES DWYER. L

Interested in contacting anyone who flew or serviced Martin B-26 aircraft in the U.K. during World War II. Info needed for history now in work. 213-788-9709. L

We wish to extend our sincere appreciation to our friends at Northrop for the many expressions of kindness during the recent loss of our husband & father, Donald E. Ross. MRS. DONALD E. ROSS & FAMILY. L

I wish to express my sincere gratitude & appreciation to all my friends at Northrop for the flowers, cards, concern & kindness shown to myself & my family due to the death of my mother. W. JONES. L

My heartfelt gratitude to all my friends at Northrop for their many courtesies throughout the years & their expressions of cordial good wishes for my retirement. MARVEL KOREN. L

I wish to express my sincere appreciation for the expressions of sympathy during the recent loss of my husband, Ralph G. Abbott. MRS. RALPH G. ABBOTT. L

I would appreciate copies of pictures taken of the king & queen at the luau in Kona, Hawaii, during the Northrop Hawaiian tour. 213-324-9593. L

We wish to extend our deepest & most sincere appreciation for the expressions of sympathy in the recent loss of our beloved husband, father & grandfather, P. L. "Roy" Venable. VIRGINIA VENABLE & FAMILY. L

## For Sale or Trade

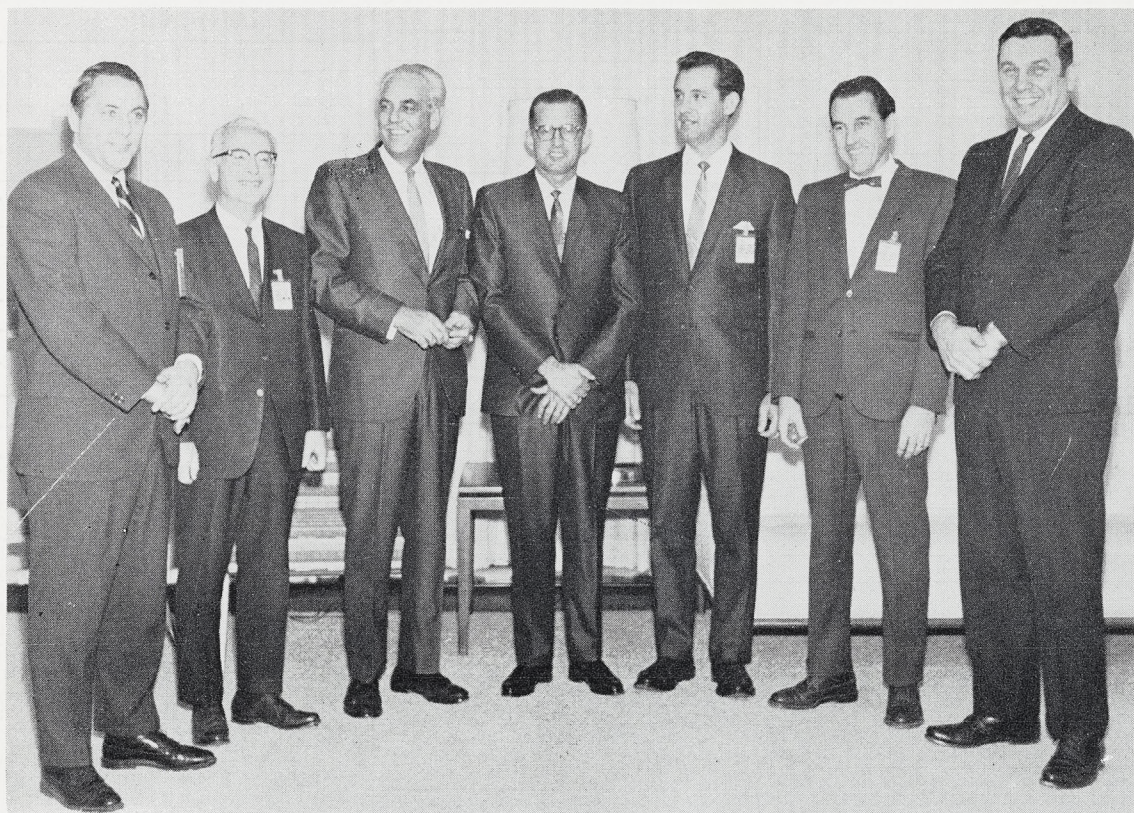
Engine, for model airplane, De Long 30, \$15 or trade for smaller engines, prefer .049s. 213-941-1865. M

Motorcycle, 1966 Triumph Bonneville, 650 cc, \$850 or consider trade-in basis on reliable automobile. 213-675-9673. M

Lincoln, 1954, \$50 or trade for gun. 213-596-2920. M

Hide-A-Beds, pr. twin size, \$180 & kidney shaped walnut coffee table w/stepped end tables, \$60 or trade for walnut bedroom furniture &





AT CEREMONIES honoring Northrop Ventura Snoopy pin winners, are from left, John Mihelich of North American Rockwell, Ventura Apollo Project Manager Wes Steyer, re-

cipients Bill Freeman, Stan Nutter, Glen Estes and Bob Boulanger, and Vice President and Divisional General Manager Welko E. Gasich.

## SNOOPY—Winners Receive Personal Letters from Astronauts

(Continued from page 1)

ditch representing Tom Flannigan, vice president, Marketing, was present with Mr. Freeman.

The men also received personal laudatory letters from Apollo astronauts.

Mr. Boulanger's letter from Wally Schirra, commander of the Apollo 7 flight, noted that "during the past 2½ years in which you have been the key engineer in Design and Analysis at Northrop Ventura you have contributed immeasurably to keeping the Apollo Earth Landing System development on schedule."

The letter also said those at the Manned Spacecraft Center in Houston are "most gratified for the example you are setting."

Mr. Estes' letter, from Apollo 7 Astronaut Walter Cunningham, praised the development of techniques for packaging and repairing the landing system sequence controllers at "a substantial dollar savings."

These repair techniques, the letter pointed out, "were developed in a large part on your own time."

Mr. Freeman was program manager of Paradymanics when the Gemini and Apollo contracts were awarded and headed their development until moving to a position in Marketing in 1964.

"You have brought valuable experience and judgment to the

program and since your transfer to Marketing the program has continued to benefit from your experience and judgment," Commander Schirra said in his letter to Mr. Freeman.

Mr. Nutter's "rare contribution" to the Apollo Program, Astronaut Cunningham wrote, continues to "reflect upon your dedication and leadership."

The astronaut thanked Mr. Nutter for training "generations of inspection personnel who are today responsible for quality performance in packing parachutes for the Apollo Earth Landing System."

It was Mr. Nutter's second personal commendation from Mr. Cunningham. He received an engraved pen set in 1967 from the astronaut for outstanding job performance in the National Aeronautics and Space Administration's Apollo spacecraft program.

Six other Ventura employees received Snoopy pins and letters of appreciation and praise from the astronauts last month. Nominations for the award are made by the Ventura Apogee Club Committee.

The Snoopy pins, to be worn in the tie or lapel, are presented by the astronauts or their representatives to individuals who have made significant personal and professional contributions to the success of the Apollo mission.

## Three Mark 20th Year Of Service

Northrop Ventura has awarded service pins to three 20-year men, six 15-year veterans, 11 who have served a decade and four who have completed five years.

In the 20-year category, Chap Flynn began his employment with Radioplane as an assembler. He is now a senior designer in Engineering. Ted Hildebrand originally worked as a development mechanic and now is a combination welder in Manufacturing. Dale Johnson came to Norair as a pilot and is now in Ventura Advanced Design.

Fifteen-year employees who received recognition were Clinton Gwinn, Ronald Swaim and Warren Worthington, Engineering; John Evans, Manufacturing; Leslie Hudson, Finance; and Enos Jeffs, Contracts.

Ten-year pins went to Ralph Boyd and George Semones, Facilities; Ray Clyde and David Moore, Quality Control; Charles Atkins, Adele Grunau, Vernon Turner and Steven Wrubel, Manufacturing; Lawrence Kruger and Carola Lang, Finance; and Roy Nickerson, Engineering.

Awards for five years of service were presented to Gerald Carver, Julian Geller, Robert Provart and Maria Sorbello.

## T-38—Division's Work Lauded By AF at 1,000th Talon Ceremonies

(Continued from page 1)

ourselves at Northrop, I will say that this record would not have been possible without the cooperation of everyone involved in building the T-38."

The delivery ceremony, hosted by F. W. Lloyd, vice president and general manager, Northrop Norair, was attended by nearly 300 Air Force, civic and industry personnel.

Honored guests from the Air Force, in addition to Generals Maddux and Riley, included Lt. General Charles T. Myers (USAF-Retired), past commander ATC; Brig. General Harmon E. Burns, assistant deputy chief of staff, Materiel; Brig. General Ernest T. Cragg, deputy chief of staff, Operations; and Brig. General Alton D. Slay, commander, Air Force

Flight Test Center, Edwards AFB.

Civic officials included Mayor Domenico Massari of Palmdale and Honorary Mayor Herman Mohling of Lancaster.

General Cragg and Captain Robert L. Rutherford flew the milestone aircraft to Randolph AFB, San Antonio, Texas, where welcoming ceremonies were conducted by the Air Force and local civic dignitaries.

The T-38 is principally known for its proven reliability, and despite its heavy operational use, has consistently achieved the best safety record of any supersonic airplane in the Air Force inventory.

General Maddux pointed out that the T-38 is presently being flown more than 40,000 hours a month by the Training Command.



TYPICAL OF MANY Northrop Ventura employees who work on Northrop's T-38 Program is G. W. Blythe shown assembling a seat for the T-38. Northrop has just delivered its 1,000th T-38.

## Past Presidents Are Honored As Recreation Club Installs Slate

Newly elected officers of the Northrop Ventura Recreation Club were installed Saturday at the annual installation dinner dance. The evening's activities were conducted in the Wine Cel-

lar Room at Westlake Inn in Westlake Village.

Dorothy Prychoda accepted the gavel for 1969 from Zack Silvers, outgoing president. Earl Muehlenbach officially became vice president and Tony Piscuskas, treasurer. Betty Reinisch was installed as secretary and Dick Kipp as sergeant-at-arms.

Master-of-ceremonies and former president John Lawrence recognized three other past presidents, Hank Fritz, Ray Gage and Ron Gilbert who were guests for the evening.

## Billiard Club Tournament Won By Bruce Dyke

The Northrop Ventura Pocket Billiard Club has opened its new season with a nine-ball tournament in Thousand Oaks.

Cash prizes were awarded for the three highest scores. The winners were: Bruce Dyke, first place, \$10; Hal Hunsberger, second place, \$5; and Bob Jackson, third place, \$2.

Additional prizes for sinking the nine-ball and the five-ball on the opening break were won by several players.

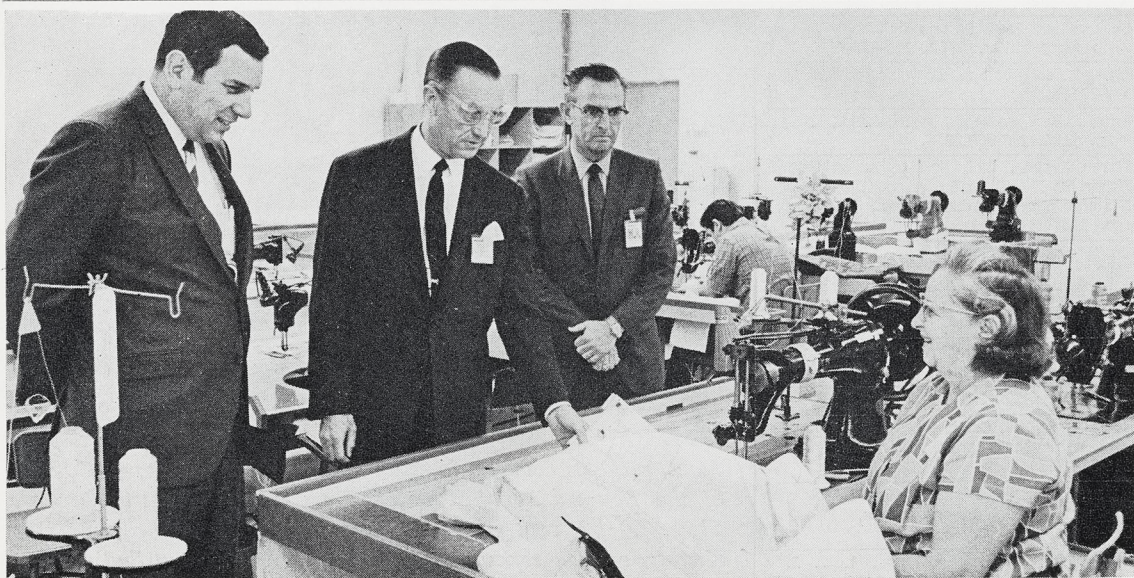
Meetings are every Tuesday at 6 p.m. at a new location this year, the Camarillo Bowl billiards room located in the Ponderosa Shopping Center in Camarillo.

Employees are invited to contact Dick Ranes, commissioner, ext. 1098 or Marty Zeller, ext. 1248 for further information.

## PADWA ATTENDING SPECIAL SEMINAR

Ned Padwa, Ventura director of Systems Assurance, is one of more than 60 senior executives from 40 businesses based in 47 different communities in Southern California who are enrolled in the current session of the Managerial Policy Institute in the University of Southern California's School of Business Administration.

Primary objective of the institute is the broadening of an executive's understanding in order that he may provide the responsible leadership required in a changing business environment.



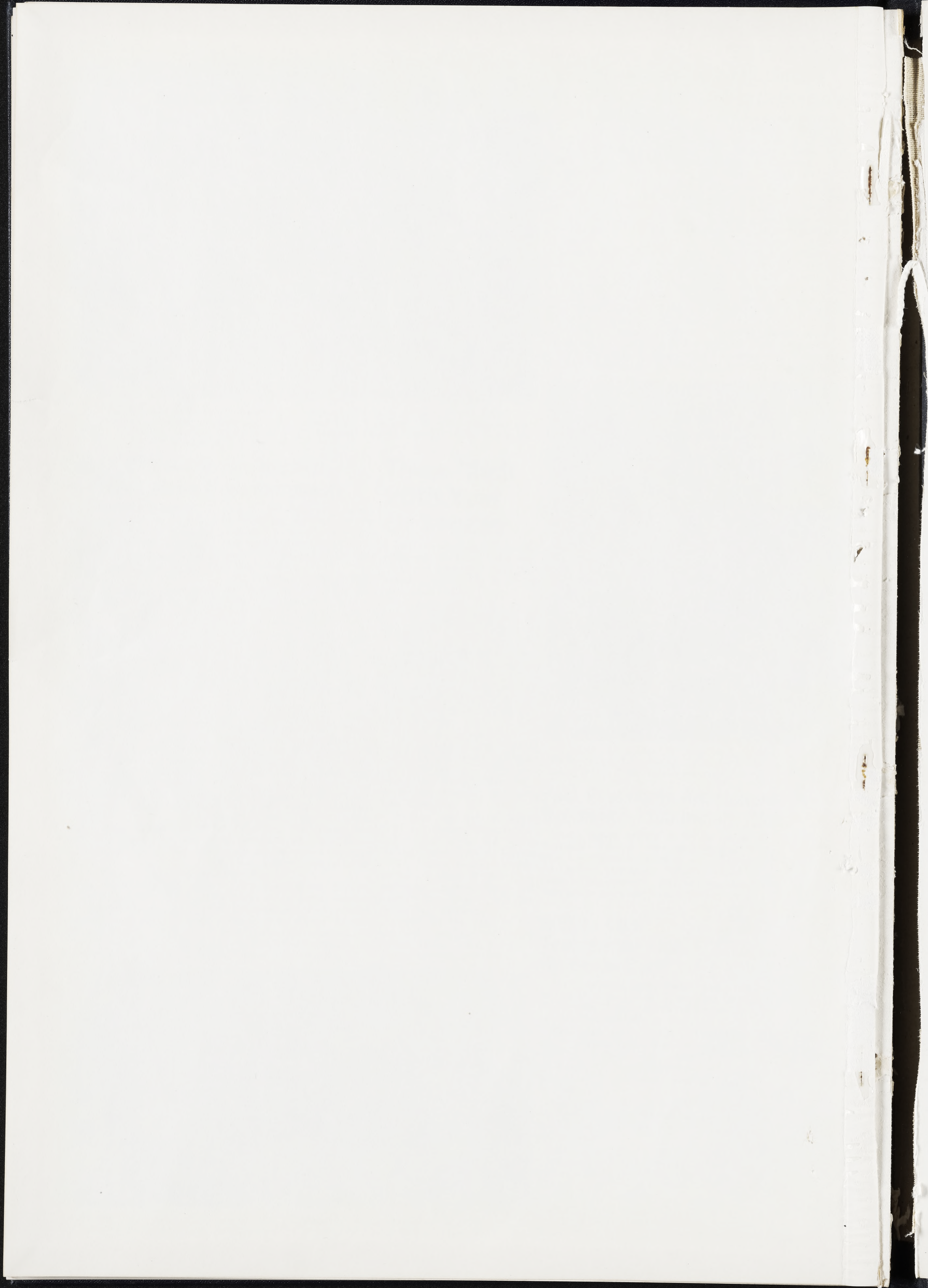
NORTHROP PRESIDENT Thomas V. Jones is flanked by Welko E. Gasich, left, vice president and general manager, and Johnnie Via,

Personnel representative, while chatting with Bonnie Olson in the Paralab during his annual pre-holiday visit to Northrop Ventura.



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